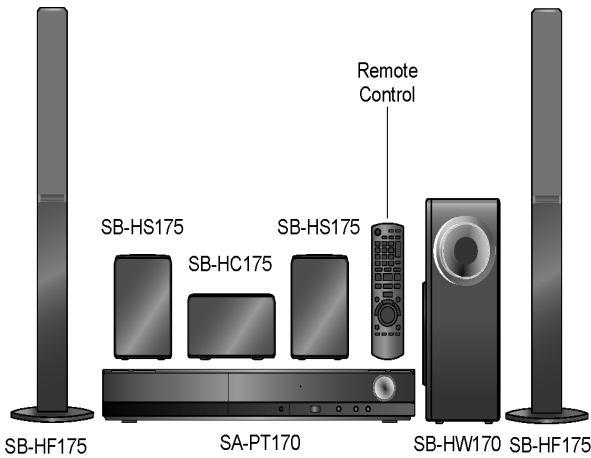


# Service Manual

DVD Home Theater Sound System

Model No. **SA-PT170GS**  
**SC-PT175GS**

Product Color: (K/K1)...Black Type



**Notes:** This model is based on SA-PT170GA/GC/GS-K. Please refer to the original service manual (Order no. PSG0903021CE).

## ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

## IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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# 1 Safety Precautions

## 1.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, carry out the following leakage current checks to prevent the customer from being exposed to shock hazards.

### 1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between  $1\text{M}\Omega$  and  $5.2\text{M}\Omega$ .

When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$

### 1.1.2. LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a  $1.5\text{k}\Omega$ , 10 watts resistor, in parallel with a  $0.15\mu\text{F}$  capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

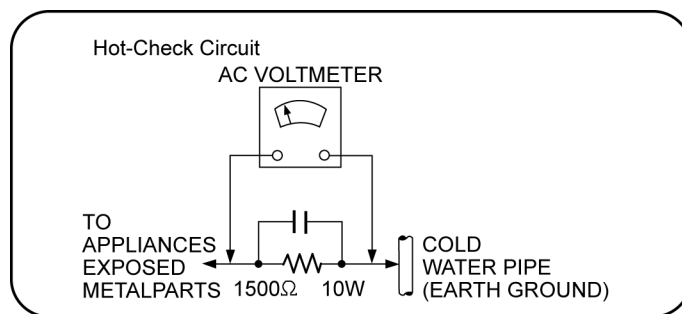


Figure 1

## 1.2. Before Use

Be sure to disconnect the mains cord before adjusting the voltage selector.

Use a minus (-) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used. (If the power supply in your area is 117V or 120V, set the "117V or 120V" position.)

Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries, the correct voltage is already set.)

## 1.3. Before Repair and Adjustment

Disconnect AC power to discharge unit AC Capacitors as such (C5700, C5701, C5702, C5706, C5707, C5708) through a  $10\Omega$ , 10 W resistor to ground.

### Caution:

DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.

After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at AC 220-240 V, 50 Hz in NO SIGNAL mode volume minimal should be  $\sim 500\text{ mA}$ .

Current consumption at AC 110-127 V, 50/60 Hz in NO SIGNAL mode volume minimal should be  $\sim 600\text{ mA}$ .

## 1.4. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.


**Note:**












When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

## 1.5. Safety Parts Information

**Safety Parts List:**

There are special components used in this equipment which are important for safety.

These parts are marked by  in the Schematic Diagrams, Exploded View & Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	18	RGRX0071C-B2	REAR PANEL	
	31	RKMX0141-1K3	TOP CABINET	
	50	REXX0728	BLACK WIRE (SMPS-AC)	
	51	REXX0730	RED WIRE (SMPS-AC)	
	55	REXX0643	BLUE WIRE (VOLT SELECT-SMPS)	
	56	REXX0729	WHITE WIRE (VOLT SELECT-SMPS)	
	301	RD-DDTX001-V	TRAVERSE UNIT	(RTL)
	A2	K2CQ2CA00007	AC CORD	
	A2	K2CZ3YY00005	AC CORD	
	A3	RQTX0242-B	O/I BOOK (En)	
	A3	RQTX0243-G	O/I BOOK (Ar/Pe)	

## 1.6. Caution for AC Cord

**(For Saudi Arabia and Kuwait)**  
**("GS" area code model only)**

For your safety, please read the following text carefully.  
This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

### **CAUTION!**

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

### **IMPORTANT**


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

**WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.**

**THIS PLUG IS NOT WATERPROOF—KEEP DRY.**

### **Before use**

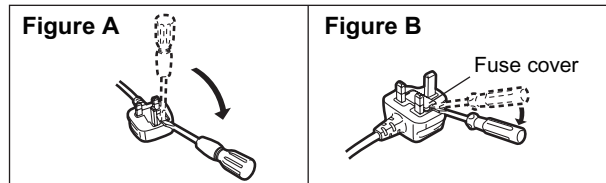
Remove the connector cover.

### **How to replace the fuse**

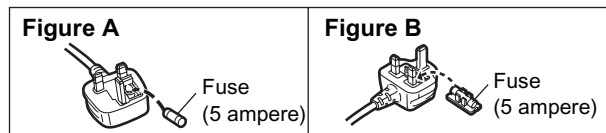
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



## 2 Warning

### 2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as “anti-static (ESD protected)” can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**Caution:**

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

## 2.2. Precaution of Laser Diode

### CAUTION:

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

### Caution:

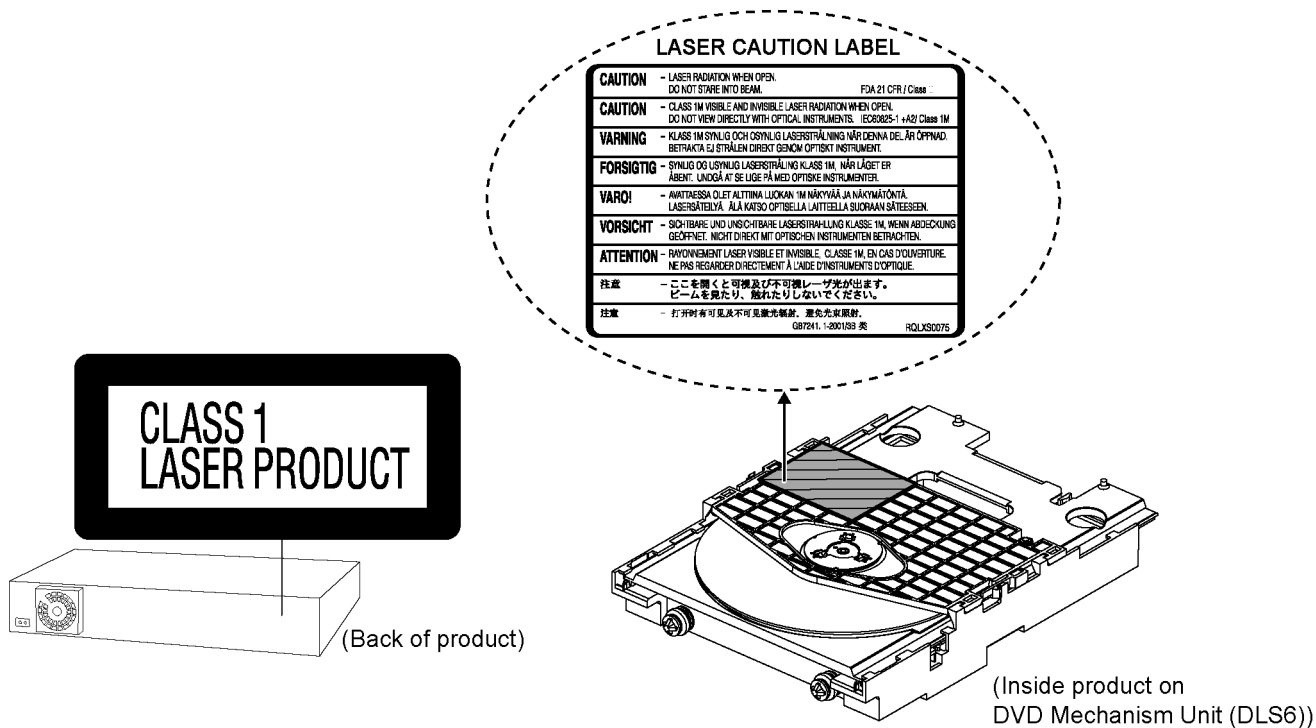
This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wavelength: 655 nm (DVD)/785 nm (CD)

Maximum output radiation power from pickup: 100  $\mu$ W/VDE

Laser radiation from the pickup unit is safety level, but be sure the followings:

1. Do not disassemble the pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.



## 2.3. Service caution based on Legal restrictions

### 2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

#### Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF
---	-----

#### Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.  
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

#### Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.  
RFKZ03D01K----- (0.3mm 100g Reel)  
RFKZ06D01K----- (0.6mm 100g Reel)  
RFKZ10D01K----- (1.0mm 100g Reel)

#### Note

\* Ingredient: tin (Sn), 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%



## 2.4. Handling Precautions for Traverse Unit

The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the traverse unit.

### 2.4.1. Cautions to Be Taken in Handling the Optical Pickup Unit

The laser diode in the optical pickup unit may be damaged due to electrostatic discharge generating from clothes or human body. Special care must be taken avoid caution to electrostatic discharge damage when servicing the laser diode.

1. Do not give a considerable shock to the optical pickup unit as it has an extremely high-precise structure.
2. To prevent the laser diode from the electrostatic discharge damage, the flexible cable of the optical pickup unit removed should be short-circuited with a short pin or a clip.
3. The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the flexible cable.
4. The antistatic FPC is connected to the new optical pickup unit. After replacing the optical pickup unit and connecting the flexible cable, cut off the antistatic FPC.

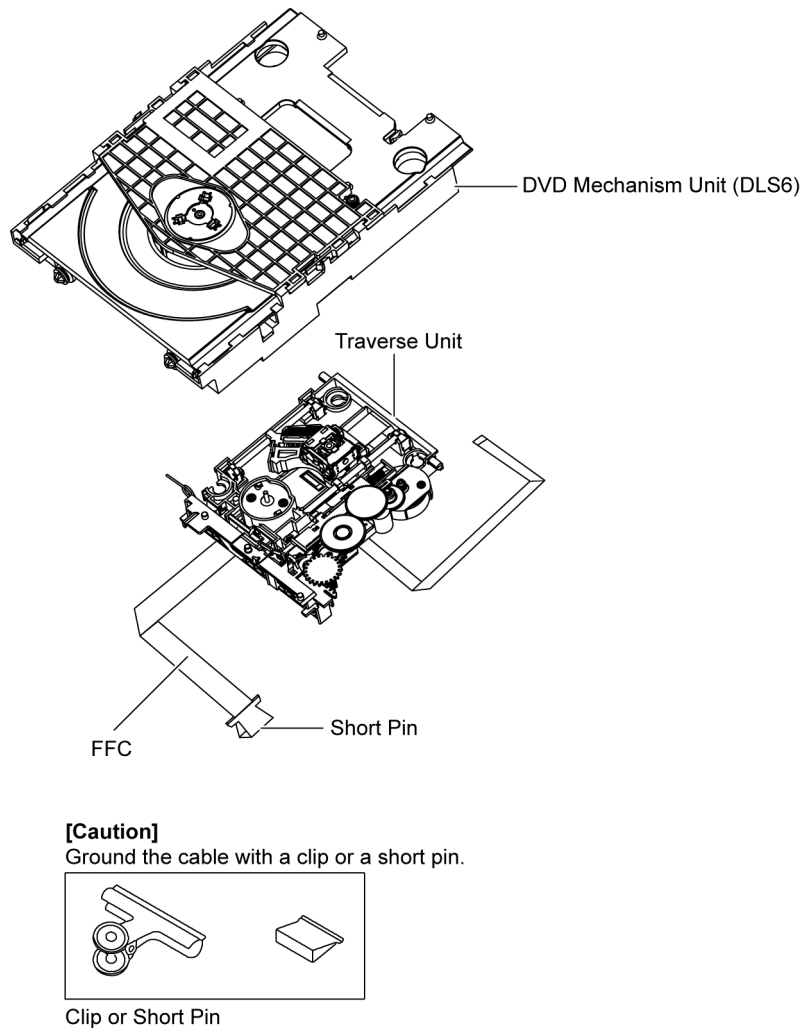


Figure 1

### 2.4.2. Grounding for electrostatic breakdown prevention

Some devices such as the DVD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

#### 2.4.2.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet.

#### 2.4.2.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity form your body.

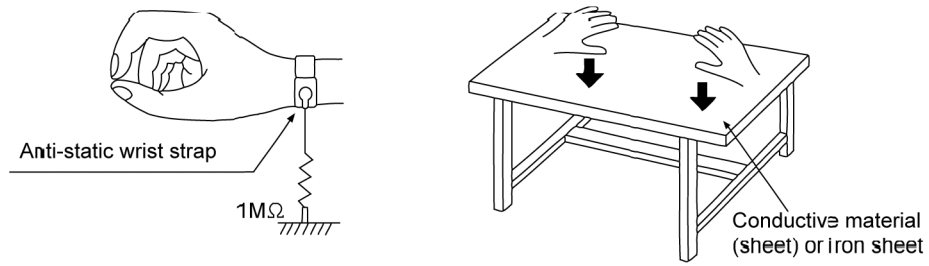


Figure 2

## 3 Service Navigation

### 3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model. Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

#### • DVD Mechanism Unit (DLS6):

- 1) This model uses DVD Mechanism Unit (DLS6).
- 2) This service manual does not contain the following information on DLS6
  - \* Schematic Diagram, Block Diagram and P.C.B. layout of DLS6 P.C.B.
  - \* Parts List for individual parts of DVD Mechanism Unit (DLS6).
  - \* Exploded View and Part List for individual parts of DLS6 mechanism.
 Please refer to original service manual (Order No. MD0801003CE)

#### • Speaker system

- 1) For information, please refer to original service manual, SB-PT175EP-K/S (Order No. PSG0903019CE).

### 3.2. DIFFERENCES TABLE

Ref no/Part Name	PT170GA/GC/GS-K	PT170GS-K1
PACKING CASE1	RPGX2155 (GC)	-
	RPGX2156 (GS)	RPGX2187
	RPGX2157 (GA)	-
POLYFOAM 1	RPNX0620	RPNX0586
REAR PANEL	RGRX0071C-B2	RGRX0071C-B2
	RGRX0071C-C (GA)	-
AC CORD	K2CQ2CA00007 (GC/GS)	K2CQ2CA00007
	K2CZ3YY00005 (GS)	-
SCREW	-	XTN5+10FFJK
O/I BOOK	RQTX0242-B (En)	RQTX0242-B (En)
	RQTX0243-G (AR/PE)	RQTX0243-G (AR/PE)
	RQTX0244-K (CN)	-
MAIN P.C.B	REPX0694E (GC/GS)	REPX0695B
	REPX0694F (GA)	-
IC8611	RFKBX0681A-M (GC/GS)	RFKBX0681A-M
	RFKBX0681C-M (GA)	-
IC8651	RFKWMH41B322 (GC/GS)	RFKWMH41B322
	RFKWMH41D320 (GA)	-
D2008	MA2J11100L	MA2J1110GL
D2601	MA2J11100L	MA2J1110GL
D2602	MA2J11100L	MA2J1110GL
D2751	MA2J11100L	MA2J1110GL
D2752	MA2J11100L	MA2J1110GL
D2753	MAZ80510ML	MAZ8051GML
D2915	MA2J11100L	MA2J1110GL
D2944	MA2J11100L	MA2J1110GL
D2945	MA2J11100L	MA2J1110GL
D2946	MAZ80750ML	MAZ8075GML
D2947	MAZ81100ML	MAZ8110GML
D2948	MAZ80750ML	MAZ8075GML
D2949	MAZ80510ML	MAZ8051GML
D2964	MA2J11100L	MA2J1110GL
D2966	MA2J11100L	MA2J1110GL
K8002	D0GBR00JA008	-
K8007	D0GBR00JA008	-
R2082	D0GB333JA008 (GC/GS)	D0GB333JA008
	D0GB223JA008 (GA)	-
R2089	D0GB332JA008 (GC/GS)	D0GB682JA008
	D0GBR00JA008 (GA)	-

R2865	D0GB682JA008 (GC/GS)	D0GB682JA008
	D0GB103JA008 (GA)	-
R6939	ERJ6GEYJ2R7V	D0GDR00JA017
R6940	ERJ6GEYJ2R7V	D0GDR00JA017
R8000	D0GB154JA008 (GC/GS)	D0GB563JA008
	D0GB181JA008 (GA)	-

### 3.3. Notes:

—This service manual contains technical information which will allow service personnel's to understand and service this model.

—If the circuit is changed or modified, this information will be followed by supplement service manual to be filled with the original service manual.

1) The base for this model is SA-PT170GA/GC/GS-K. You can refer to the original service manual (Order no. PSG0903021CE). As such this service manual does not contain the following information as below:-

- Location of Controls and Components
- Self-Diagnosis and Special Mode Setting
- Troubleshooting Guide
- Service Fixture & Tools
- Disassembly and Assembly Instructions
- Service Position
- Voltage & Waveform Chart
- Overall Simplified Block Diagram
- Block Diagram
- Wiring Connection Diagram
- Schematic Diagram Notes
- Terminal Function of ICs

2) Contents include for this service manual:-

- Safety Precautions
- Warning
- Service Navigation
- Specifications
- Illustration of ICs, Transistor and Diode
- Schematic Diagram (Main only)
- Printed Circuit Board (Main only)
- Exploded View and Replacement Parts List

## 4 Specifications

### Main unit SA-PT170GS

#### ●GENERAL

<b>Power supply:</b>	AC 110 to 127V/AC 220 to 240V, 50/60 Hz
<b>Power consumption:</b>	This unit 90 W
<b>Power consumption in standby mode:</b>	approx. 0.2 W
<b>Dimensions (W×H×D):</b>	430 mm×63 mm×325 mm
<b>Mass:</b>	This unit 3.14 kg
<b>Operating temperature range:</b>	0 °C to +40 °C
<b>Operating humidity range:</b>	35% to 80% RH (no condensation)

#### ●AMPLIFIER SECTION

##### RMS Output Power: Dolby Digital Mode

Front Ch:	55 W per channel (5 Ω), 1 kHz, 10% THD
Surround Ch:	55 W per channel (5 Ω), 1 kHz, 10% THD
Center Ch:	55 W per channel (5 Ω), 1 kHz, 10% THD
Subwoofer Ch:	55 W per channel (5 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power:	330 W
PMPO Output power:	2800 W

##### DIN Output Power: Dolby Digital Mode

Front Ch:	30 W per channel (5 Ω), 1 kHz, 1% THD
Surround Ch:	30 W per channel (5 Ω), 1 kHz, 1% THD
Center Ch:	30 W per channel (5 Ω), 1 kHz, 1% THD
Subwoofer Ch:	30 W per channel (5 Ω), 100 Hz, 1% THD
Total DIN Dolby Digital mode power:	180 W

#### ●TUNER, TERMINALS SECTION

<b>Preset Memory:</b>	FM 30 stations
<b>Frequency Modulation (FM)</b>	
Frequency range:	87.50-108.00 MHz (50-kHz step)

Antenna terminals:	75 Ω (unbalanced)
--------------------	-------------------

##### Digital audio input

Optical digital input:	Optical terminal
Sampling frequency:	32 kHz, 44.1 kHz, 48 kHz

##### USB Port

USB standard:	USB 2.0 full speed
Media file format support:	MP3 (*.mp3) WMA (*.wma) JPEG (*.jpg) (*.jpeg) DivX (*.divx) (*.avi) MPEG4 (*.asf)
USB device file system:	FAT12, FAT16, FAT32
USB Port power:	Max. 500 mA
Bit rate:	Up to 4Mbps (Divx)

##### Mic jack

Sensitivity:	0.7 mV, 1.2 kΩ
Terminal:	Mono, 6.3mm jack (2 system)

##### Music Port (Front)

Sensitivity:	100 mV, 3.5 kΩ
Terminal:	Stereo, 3.5mm jack

#### ●DISC SECTION

Discs played [8 cm or 12 cm]:

- (1) DVD (DVD-Video, DivX<sup>®</sup>5, 6)
- (2) DVD-RAM (DVD-VR, MP3<sup>\*2, 5</sup>, JPEG<sup>\*4, 5</sup>, MPEG4<sup>\*5, 7</sup>, DivX<sup>\*5, 6</sup>)
- (3) DVD-R (DVD-Video, DVD-VR, MP3<sup>\*2, 5</sup>, JPEG<sup>\*4, 5</sup>, MPEG4<sup>\*5, 7</sup>, DivX<sup>\*5, 6</sup>)
- (4) DVD-R DL (DVD-Video, DVD-VR, DivX<sup>\*5, 6</sup>)
- (5) DVD-RW (DVD-Video, DVD-VR, MP3<sup>\*2, 5</sup>, JPEG<sup>\*4, 5</sup>, MPEG4<sup>\*5, 7</sup>, DivX<sup>\*5, 6</sup>)
- (6) +R/+RW (Video)
- (7) +R DL (Video)
- (8) CD, CD-R/RW (CD-DA, Video CD, SVCD<sup>\*1</sup>, MP3<sup>\*2, 5</sup>, WMA<sup>\*3, 5</sup>, JPEG<sup>\*4, 5</sup>, MPEG4<sup>\*5, 7</sup>, DivX<sup>\*5, 6</sup>)

\*1 Conforming to IEC62107

\*2 MPEG-1 Layer 3, MPEG-2 Layer 3

\*3 Windows Media Audio Ver.9.0 L3

●Not compatible with Multiple Bit Rate (MBR)

\*4 Exif Ver 2.1 JPEG Baseline files

●Picture resolution: between 160 x 120 and 6144 x 4096 pixels (Sub sampling is 4:0:0, 4:2:0, 4:2:2 or 4:4:4). Extremely long and narrow pictures may not be displayed.

\*5 The total combined maximum number of recognizable audio, picture and video contents and groups: 4000 audio, picture and video contents and 255 groups. (Excluding Root Folder)

\*6 Plays all versions of DivX<sup>®</sup> video (including DivX<sup>®</sup>6) with standard playback of DivX<sup>®</sup> media files. Certified to the DivX Home Theater Profile.

\*7 MPEG4 data recorded with the Panasonic SD multi cameras or DVD video recorders.

●Conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system.

#### Pick up

Wavelength (DVD/CD):	655/785 nm
Laser power (DVD/CD):	CLASS 1/CLASS 1M

#### Audio output (Disc)

Number of channels:	5.1 ch (FL, FR, C, SL, SR, SW)
---------------------	--------------------------------

#### ●VIDEO SECTION

**Video system:** PAL625/50, PAL525/60, NTSC

#### Composite video output

Output level:	1 Vp-p (75 Ω)
Terminal:	Pin jack (1 system)

#### Component video output

Y output level:	1 Vp-p (75 Ω)
P <sub>B</sub> output level:	0.7 Vp-p (75 Ω)
P <sub>R</sub> output level:	0.7 Vp-p (75 Ω)
Terminal:	Pin jack (Y: green, P <sub>B</sub> : blue, P <sub>R</sub> : red) (1 system)

#### HDMI AV output

Terminal:	19pin type A connector
-----------	------------------------

#### HDAVI Control:

This unit supports "HDAVI Control 4" function.

#### Note:

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

#### Solder:

This model uses lead free solder (PbF).

System	SC-PT175GS-K
Main unit	SA-PT170GS-K1
Speaker system	SB-PT170EP-K <sup>*1</sup>

Refer to their respective original service manuals for \*1.

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U.S. Patent Nos. 6,836,549; 6,381,747; 7,050,698; 6,516,132; and 5,583,936.

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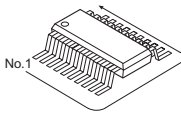
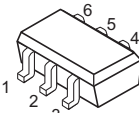
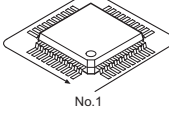
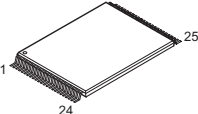
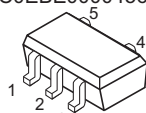
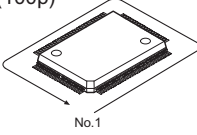
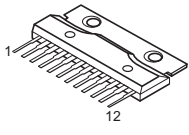
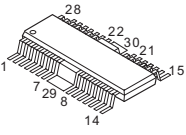
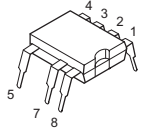
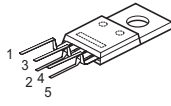
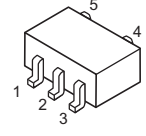
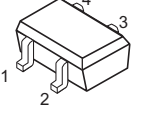
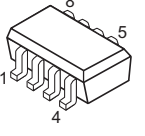
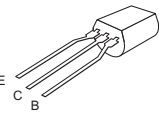
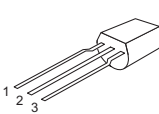
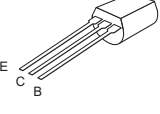
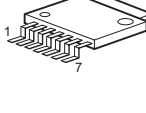
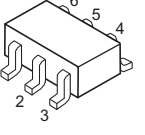
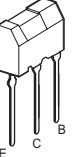
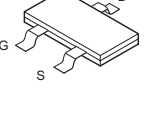
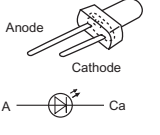
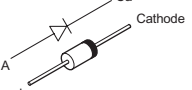
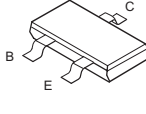
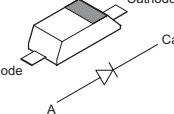
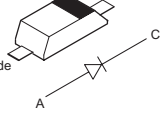
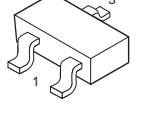
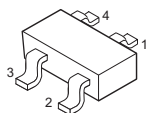
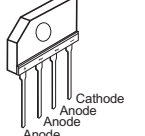
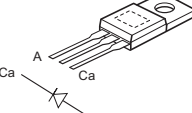
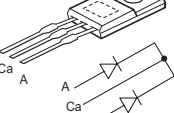
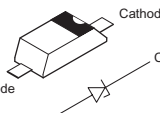
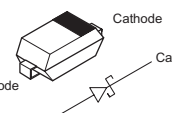
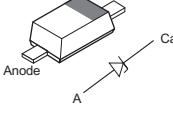
Plays DivX® video  
DivX® is a registered trademark of DivX, Inc. and is used under licence

■ **Built-in decoders**

You can play discs with these symbols.



## 5 Illustration of ICs, Transistor and Diode

 <p>No.1</p>	C0DBZYY00266 (8p) C0FBAK000026 (16p) C0JBAB0000908 (6p) C0JBAB0000907 (20p) C0FBBY000060 (30p) C0ABBB000189 (8p) C1AB00002773 (16p) C3ABPG000160 (54p) C9ZB00000461 (32p)	 <p>6 5 4 1 2 3</p>	 <p>No.1</p>	C0HBB0000057 (44p) MN2DS0018MP (216p) MN864702A (128p)	 <p>48 1 24 25</p>
C0JBAA000501 C0JBAA000502 C0JBAB000907 C0CBCBC00140 C0EBE0000456  <p>5 4 1 2 3</p>	C1AB00002735 (100p) RFKWMPT470EB (100p)  <p>No.1</p>	AN17831A  <p>12</p>	C0GBG0000048 (28P)  <p>28 22 30 21 15 7 29 8 14</p>	MIP2F20MSSCF  <p>4 3 2 1 5 7 8</p>	C0DAAMH00012 C0DAAMH00015 C0DAAYY00042  <p>1 3 2 4 5</p>
C0CBCDC00063  <p>5 4 1 2 3</p>	C0EBA0000039  <p>4 3 1 2</p>	RFKBX0681A-M RFKWEPT470EB  <p>8 5 1 4</p>	2SB0621AHA  <p>E C B</p>	C0DABFC00002 (3p) C0DAEMZ00001 (3p) B1ABCF000011 (3p)  <p>1 2 3</p>	2SC3940ARA B1ACKD000005  <p>E C B</p>
C0DBFZG00001  <p>7</p>	B1HBECA00004  <p>6 5 4 1 2 3</p>	B1BABK000001  <p>E C B</p>	B1CFHA000002  <p>D G S</p>	B3ABA0000795  <p>Anode Cathode A Ca</p>	B0EAKM000117 B0EAMM000057 B0HAMP000094 B0JAME000029  <p>Ca Cathode A Anode</p>
B1ABCF000176 B1ABGC000005  <p>C B E</p>	B1ADCE000012 B1ADCF000001 B1ADGB000008 B1GDCFGA0018 B1GDCFJJ0047 B1GBCFJJ0051 B1GBCFJN0033 B1GBCFLL0037	UNR221400L UNR521100L 2SB1218ARL 2SD0601AHL 2SD1819AOL	MA2J11100L MA2J72800L MA2YF8000L MA2J1110GL  <p>Cathode Ca Anode A</p>	B0ACCK000005  <p>Cathode Ca Anode A</p>	B1GDCFJJ0002  <p>3 2 1</p>
B0EDKT000009  <p>4 1 3 2</p>	B0EBNR000015  <p>Cathode Anode Anode</p>	B0ZAZ0000052  <p>Ca A Ca A</p>	B0HBMS000054 B1BACG000023  <p>A Ca A Ca A Ca A A Ca A</p>	B0BC010A0007 B0BC2R4A0006  <p>Cathode Ca Anode A</p>	B0JCPD000025  <p>Cathode Ca Anode A</p>
 <p>Cathode Ca Anode A</p> <p>MAZ80510ML MAZ80620ML MAZ80750ML MAZ81100ML MAZ81200ML MAZ81300HL MAZ81800ML MAZ82400HL MAZ83000ML MAZ83600ML</p>			MAZ8051GML MAZ8075GML		





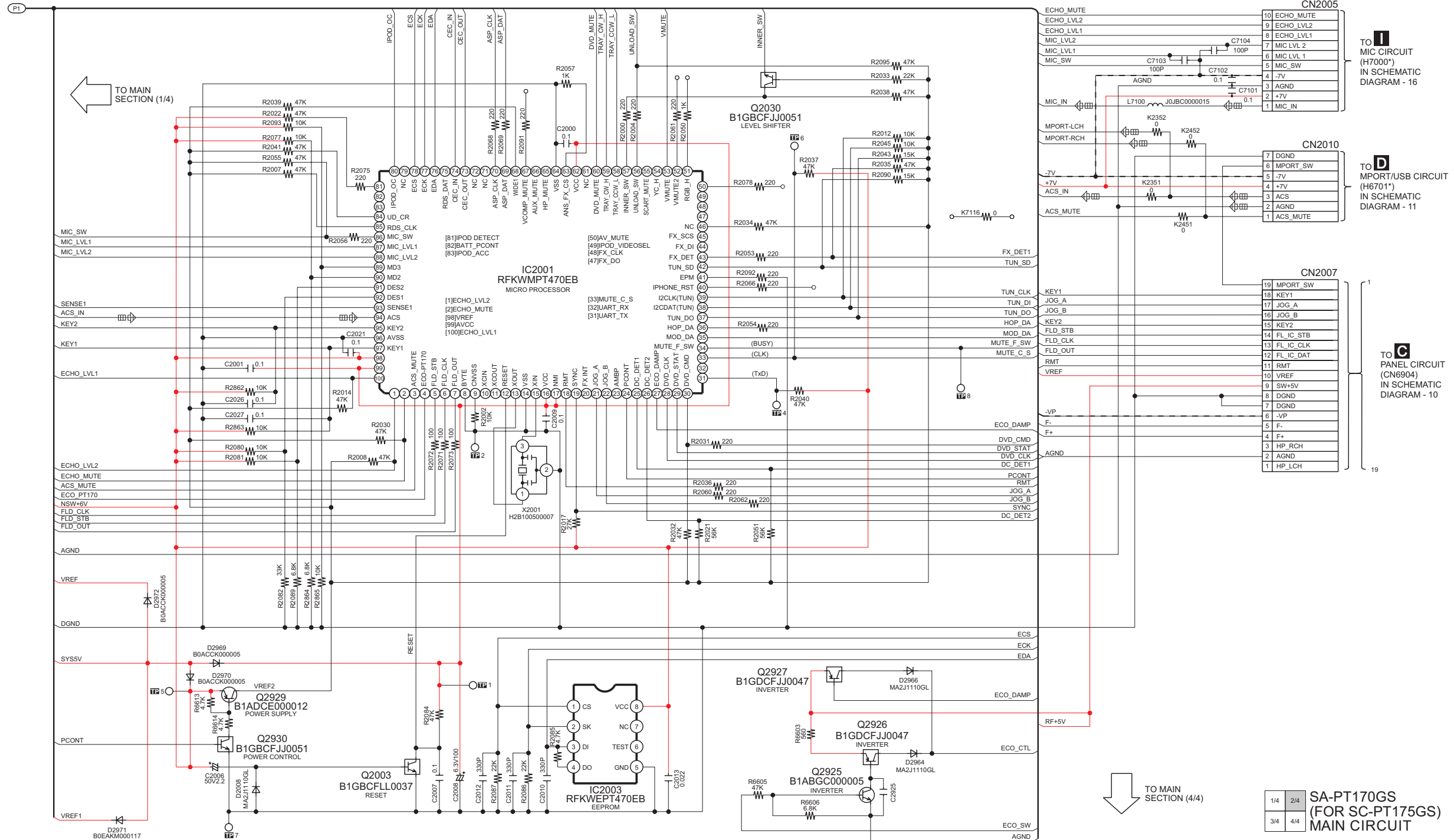
### 6.1. Main Circuit



SCHEMATIC DIAGRAM - 7

# **B** MAIN CIRCUIT

— : +B SIGNAL LINE    : CD/DVD AUDIO INPUT SIGNAL LINE    : CD/DVD VIDEO INPUT SIGNAL LINE    : VIDEO OUTPUT SIGNAL LINE  
--- : -B SIGNAL LINE    : TV/MUSIC PORT/AUX AUDIO INPUT SIGNAL LINE    : AUDIO OUTPUT SIGNAL LINE    : FM SIGNAL LINE

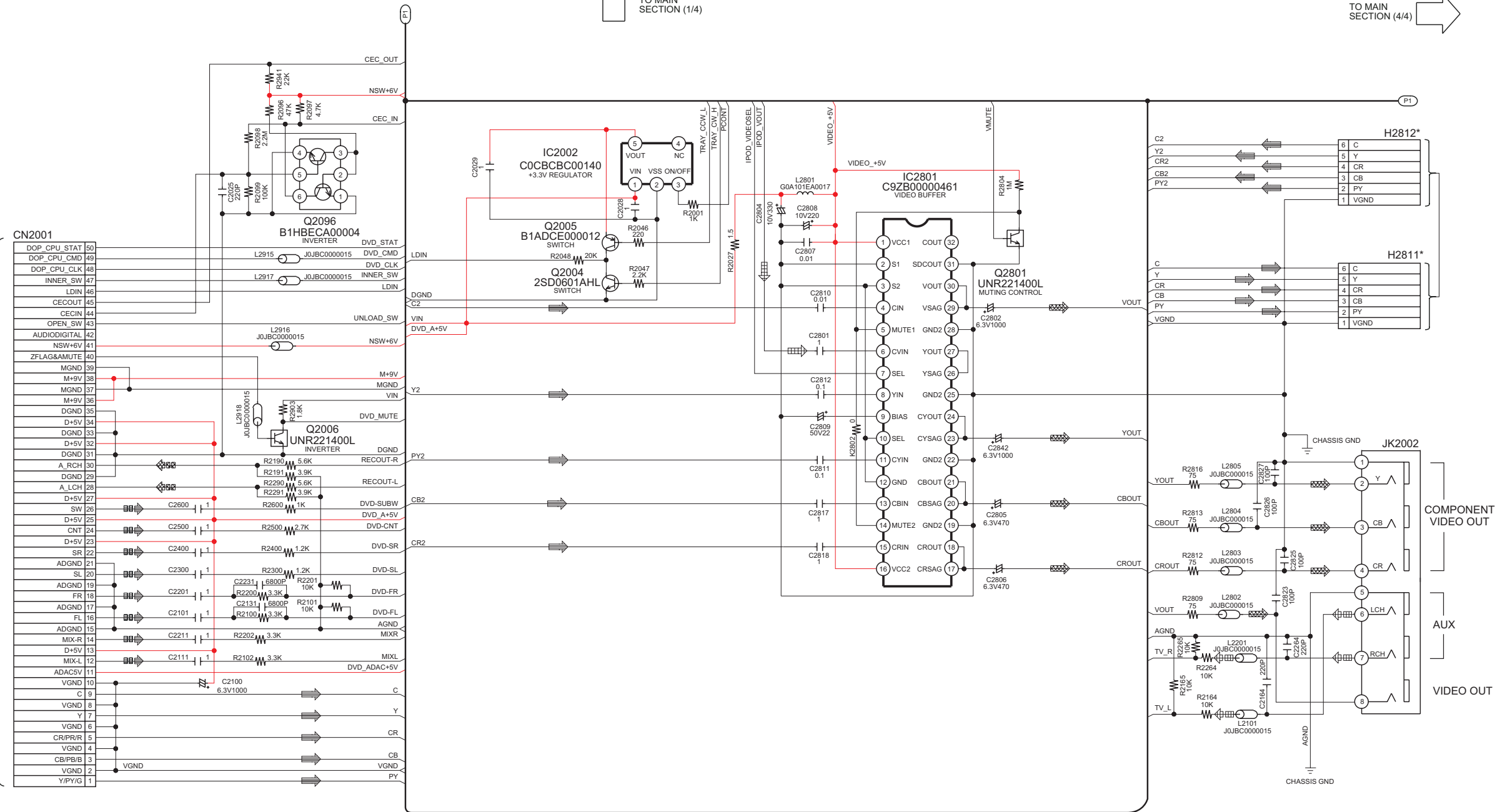


## B MAIN CIRCUIT



TO MAIN  
SECTION (1/4)

TO MAIN  
SECTION (4/4)

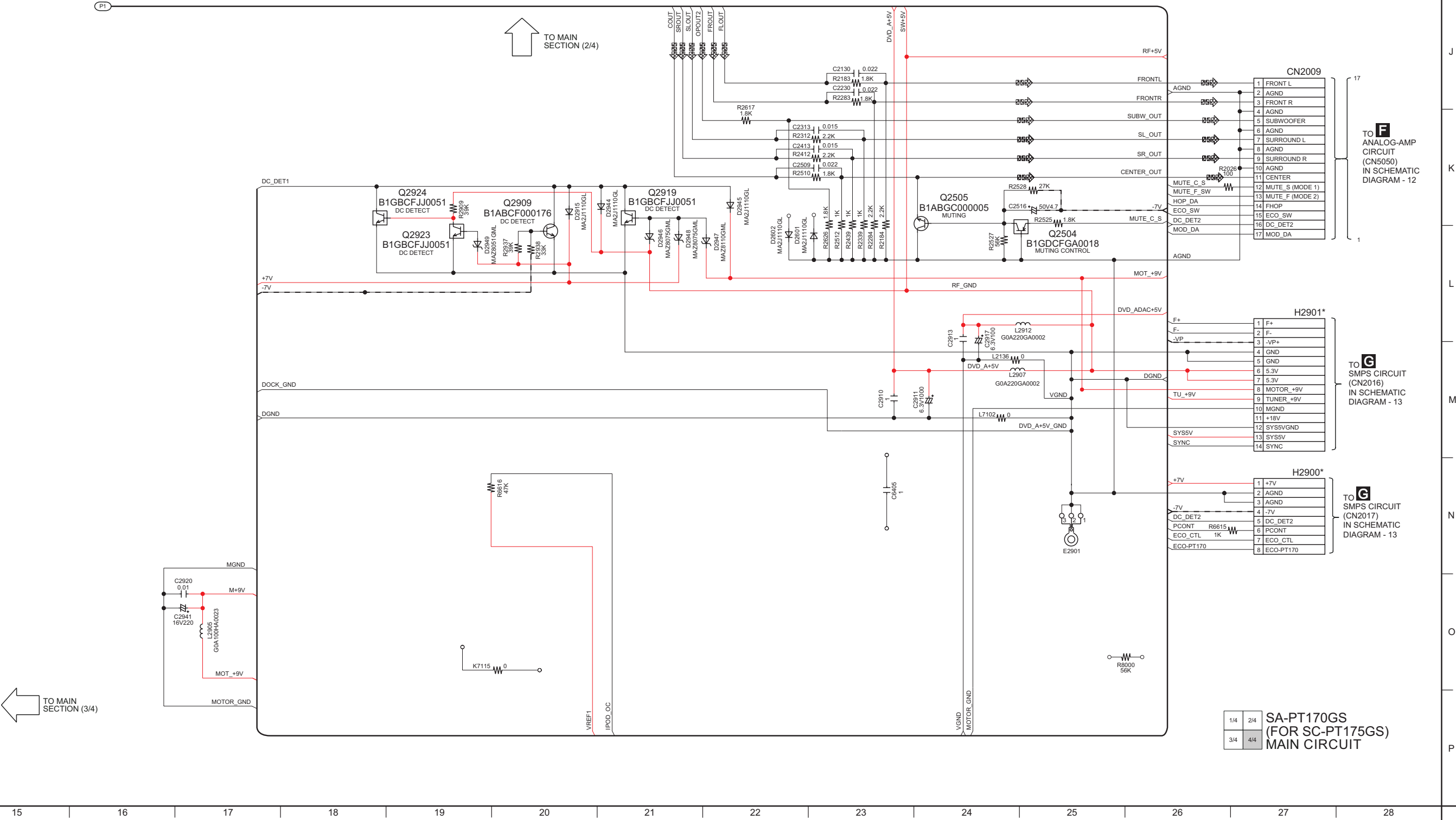


1/4	2/4	SA-PT170GS (FOR SC-PT175GS) MAIN CIRCUIT
3/4	4/4	

SCHEMATIC DIAGRAM - 9

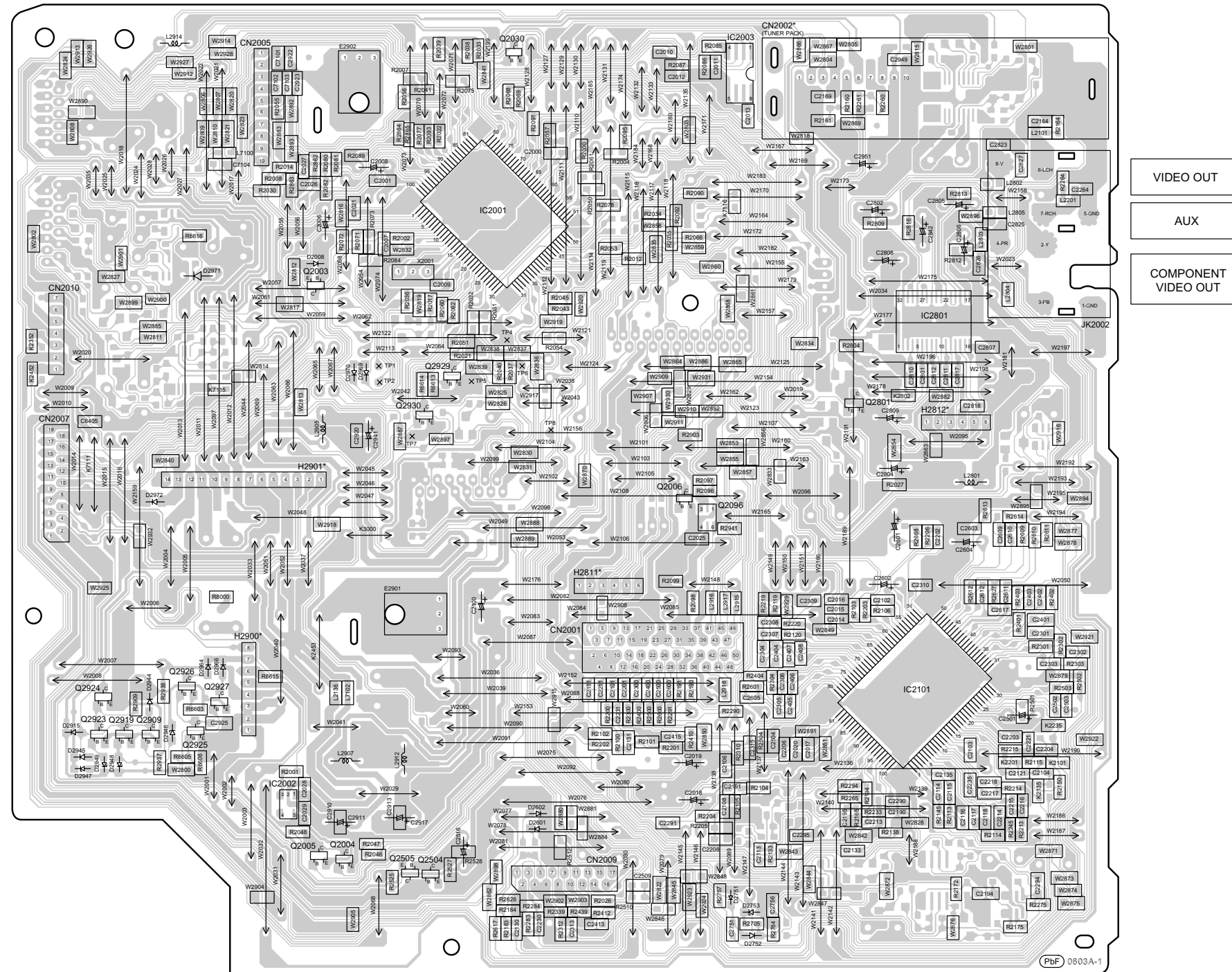
**B** MAIN CIRCUIT

— : +B SIGNAL LINE    : CD/DVD AUDIO INPUT SIGNAL LINE    : CD/DVD VIDEO INPUT SIGNAL LINE    : VIDEO OUTPUT SIGNAL LINE  
- - - : -B SIGNAL LINE    : TV/MUSIC PORT/AUX AUDIO INPUT SIGNAL LINE    : AUDIO OUTPUT SIGNAL LINE    : FM SIGNAL LINE



### 7.1. Main P.C.B.

**B** MAIN P.C.B. (REPX0695B)



NOTE: " \* " REF IS FOR INDICATION ONLY.

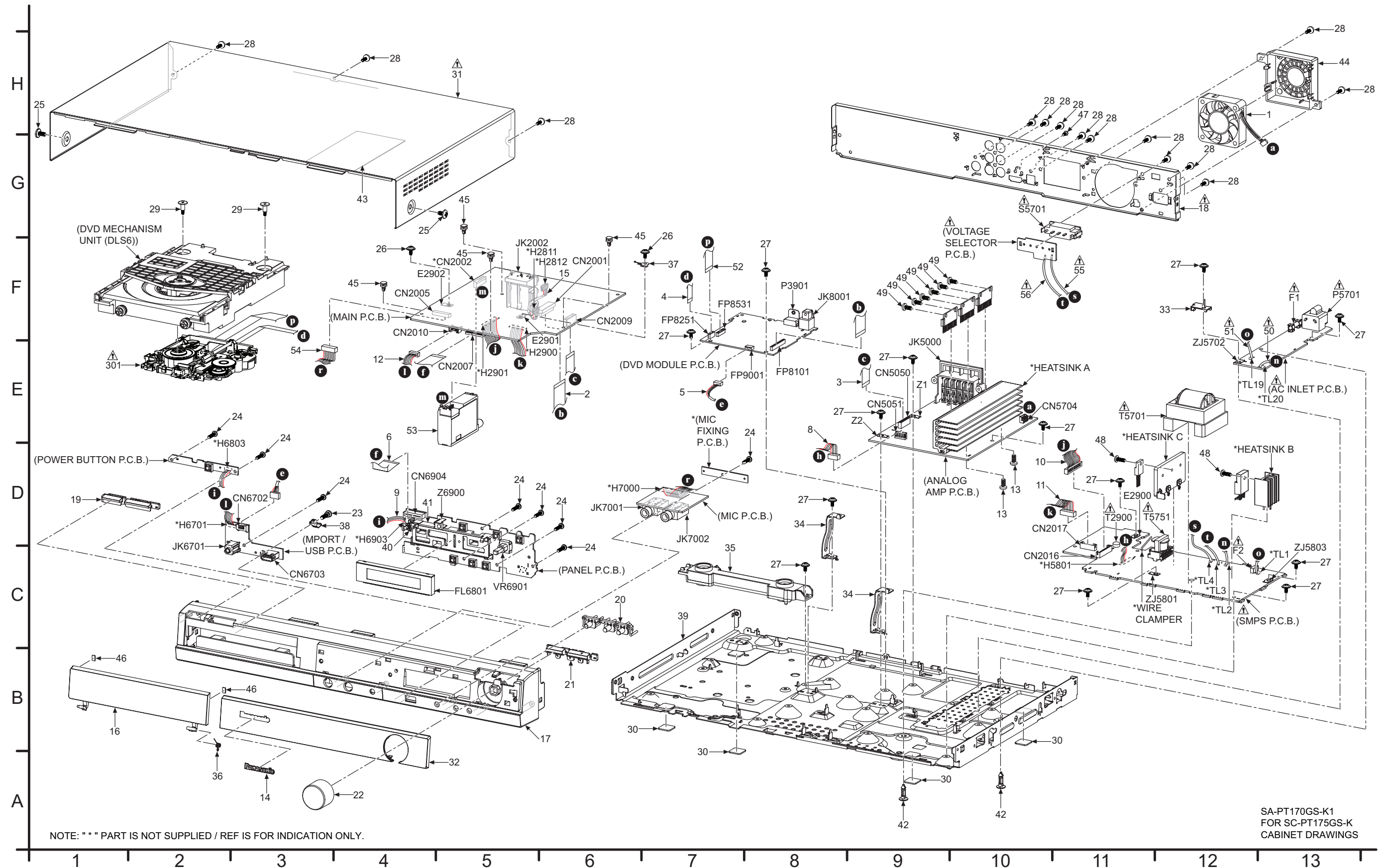
SA-PT170GS (FOR SC-PT175GS)  
MAIN P.C.B.



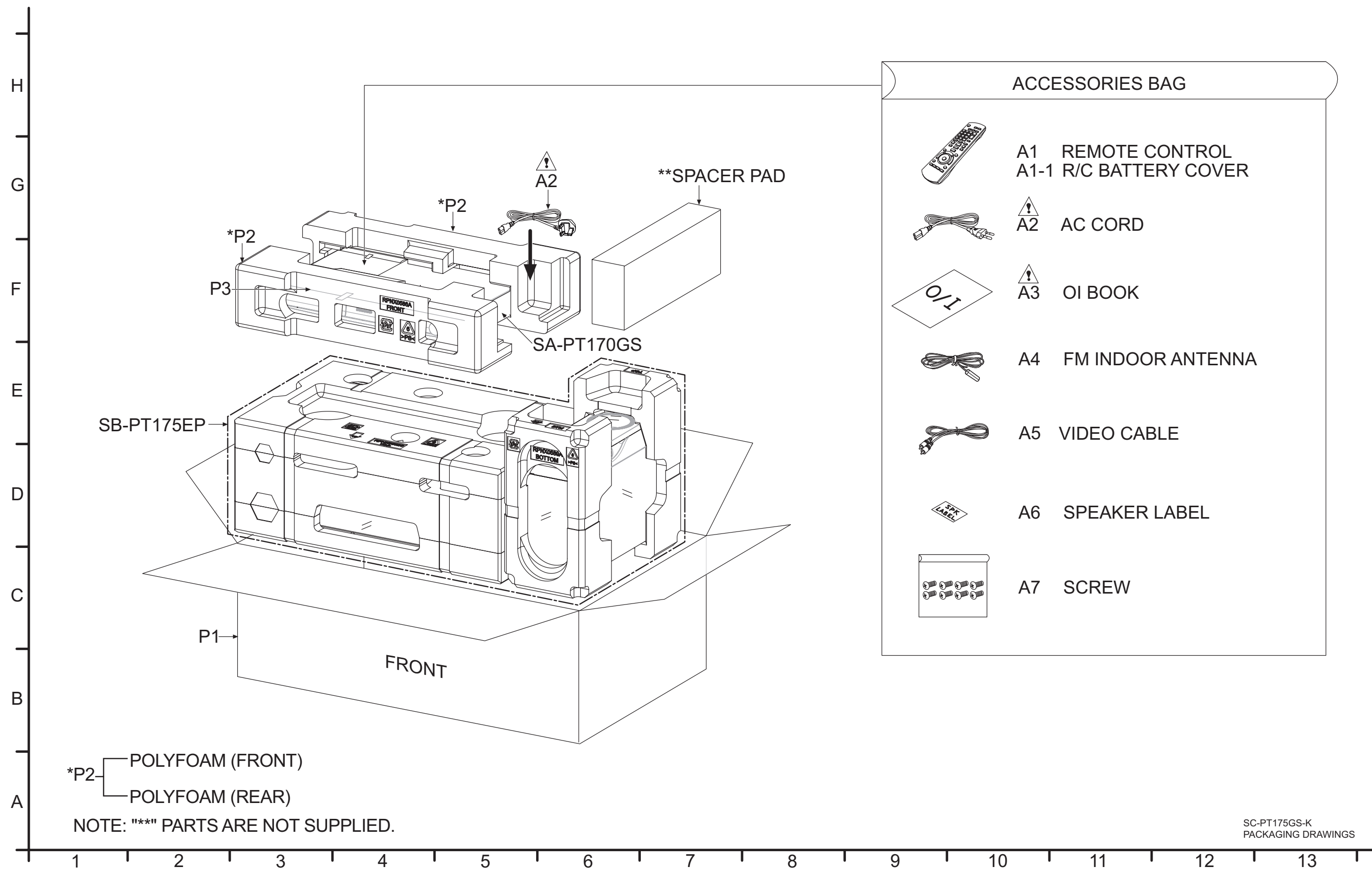
## 8 Exploded View and Replacement Parts List

### 8.1. Exploded View and Mechanical Replacement Part List

#### 8.1.1. Cabinet Parts Location



8.1.2. Packaging








### 8.1.3. Mechanical Replacement Part List

#### Important Safety Notice

Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

#### RTL (Retention Time Limited)


**Note:** The marking (RTL) indicates that the Retention Time is Limited for this item.



After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

**Note:**

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- All parts mentioned are supplied by PAVCSG unless indicated likewise.
- Parts mentioned [SPG] in the Remarks column are supplied by PAVC-CSG.
- Reference for O/I book languages are as follows:

Ar:	Arabic	Du:	Dutch	It:	Italian	Sp:	Spanish
Cf:	Canadian French	En:	English	Ko:	Korean	S:	Swedish
Cz:	Czech	Fr:	French	Po:	Polish	Co:	Traditional Chinese
Da:	Danish	Ge:	German	Ru:	Russian	Cn:	Simplified Chinese
Pe:	Persian	Ur:	Ukraine	Pr:	Portuguese		

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			CABINET AND CHASSIS		
	1	L6FAJCCH0007	FAN UNIT	1	
	2	REEX0814	50P FFC (MN-DVD)	1	
	3	REEX0815	17P FFC (MN-DAMP)	1	
	4	REEX0817	7P FFC (OPU-DVD)	1	
	5	REXX0636-J	5P WIRE (DVD-MPORT)	1	
	6	REEX0954	19P FFC (MN-PAN)	1	
	8	REXX0731	4P WIRE (SMPS-AMP)	1	
	9	REXX0718	3P WIRE (PWR-PAN)	1	
	10	REXX0723	14P WIRE (MN-SMPS)	1	
	11	REXX0724	8P WIRE (MN-SMPS)	1	
	12	REXX0753	7P WIRE (MN-MPORT)	1	
	13	RHD30092-1	SCREW	2	
	14	RGB0164-S	PANASONIC BADGE	1	
	15	REXX0770-1	6P WIRE (MN-MN)	1	
	16	RGKX0524-K	DVD LID	1	
	17	RGFX0369A-K	FRONT PANEL	1	
	18	RGRX0071C-B2	REAR PANEL	1	
	19	RGUX0786-K	POWER BUTTON	1	
	20	RGUX0813-K	OPERATION BUTTON	1	
	21	RGUX0789-K	PLAY STOP BUTTON	1	
	22	RGWX0076-2KJ	VOLUME KNOB	1	
	23	RHD26043-1	SCREW	1	
	24	RHD26046	SCREW	8	
	25	RHD30007-K2J	SCREW	2	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	26	RHD30090-1	SCREW	2	
	27	RHD30111-31	SCREW	13	
	28	RHD30119-S	SCREW	14	
	29	RHD303001	SCREW	2	
	30	RKA0059-K	LEG FELT	4	
	31	RKMX0141-1K3	TOP CABINET	1	
	32	RKWX0293-Q1	FL WINDOW	1	
	33	RMAX0118-1	PCB BRACKET	1	
	34	RMAX0131	MAIN PCB BRACKET B	2	
	35	RMAX0132	MECHA CHASSIS	1	
	36	RMBX0075-1	DOOR SPRING	1	
	37	RMXX0065	MAIN PCB GROUND SPRING	1	
	38	RMXX0063	USB EARTH SPRING	1	
	39	RMXX0155A	BOTTOM CHASSIS	1	
	40	RMNX0151	LED HOLDER	1	
	41	RMNX0260	FL HOLDER	1	
	42	RMNX0298	PCB SPACER	2	
	43	RMNX0306	SMPS PCB INSULATOR	1	
	44	RMXX0233-K	FAN COVER	1	
	45	RMXX0502A-W	PCB SUPPORT	4	
	46	RMXX0302	DAMPER RUBBER	2	
	47	XSN3+4FJ	SCREW	1	
	48	XTB3+10JFJ	SCREW	2	
	49	XTB3+8JFJ	SCREW	6	
	50	REXX0728	BLACK WIRE (SMPS-AC)	1	
	51	REXX0730	RED WIRE (SMPS-AC)	1	
	52	REEX0816	26P FFC (OPU-DVD)	1	
	53	J3CBBB000002	TUNER PACK	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	54	REXX0722	10P WIRE (MAIN-MPORT)	1	
⚠	55	REXX0643	BLUE WIRE (VOLT SELECT-SMPS)	1	
⚠	56	REXX0729	WHITE WIRE (VOLT SELECT-SMPS)	1	
			TRAVERSE DECK		
⚠	301	RD-DDTX001-V	TRAVERSE UNIT	1	(RTL)
			PACKING MATERIALS		
	P1	RPGX2187	PACKING CASE	1	
	P2	RPNX0586	POLYFOAM	1	
	P3	RPF0058-1J	MIRAMAT	1	
			ACCESSORIES		
	A1	N2QAYB000364	REMOTE CONTROL	1	
	A1-1	RKK-PT470EBK	R/C BATTERY COVER	1	
⚠	A2	K2CQ2CA00007	AC CORD	1	
⚠	A2	K2CZ3YY00005	AC CORD	1	
⚠	A3	RQTX0242-B	O/I BOOK (En)	1	
⚠	A3	RQTX0243-G	O/I BOOK (Ar/Pe)	1	
	A4	RSA0007-M	FM INDOOR ANTENNA	1	
	A5	K2KA2BA00001	VIDEO CABLE	1	
	A6	RQCA0968	SPEAKER LABEL	1	
	A7	XTN5+10FFJK	SCREW	8	

## 8.2. Electrical Replacement Part List

### Important Safety Notice

*Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.*

#### RTL (Retention Time Limited)

**Note:** The marking (RTL) indicates that the Retention Time is Limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

**Note:**

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- Capacitor value are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF), F=Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1000 (OHM).
- All parts mentioned are supplied by PAVCSG unless indicated likewise.
- Parts mentioned [SPG] in the Remarks column are supplied by PAVC-CSG.

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUIT BOARDS		
	PCB1	RFBX0681A-M	DVD MODULE P.C.B	1	(RTL)
	PCB2	REPX0695B	MAIN P.C.B	1	(RTL)
			INTEGRATED CIRCUITS		
	IC8611	RFBX0681A-M	IC	1	(RTL)
	IC8651	RFKWMH41B322	IC	1	[SPG]
			DIODES		
	D2008	MA2J1110GL	DIODE	1	
	D2601	MA2J1110GL	DIODE	1	

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	D2602	MA2J1110GL	DIODE	1	
	D2751	MA2J1110GL	DIODE	1	
	D2752	MA2J1110GL	DIODE	1	
	D2753	MAZ8051GML	DIODE	1	
	D2915	MA2J1110GL	DIODE	1	
	D2944	MA2J1110GL	DIODE	1	
	D2945	MA2J1110GL	DIODE	1	
	D2946	MAZ8075GML	DIODE	1	
	D2947	MAZ8110GML	DIODE	1	
	D2948	MAZ8075GML	DIODE	1	
	D2949	MAZ8051GML	DIODE	1	
	D2964	MA2J1110GL	DIODE	1	
	D2966	MA2J1110GL	DIODE	1	

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