

Service Manual

Recordable DVD Home Theater System

DIGA
HomeTheater

DVD
VIDEO
RAM

DVD
RW/R

DVD
AUDIO

COMPACT
disc
DIGITAL VIDEO

RAM
COMPATIBLE
RECORDER

VIDEOplus+
(EB only)

SHOWVIEW
(EG only)

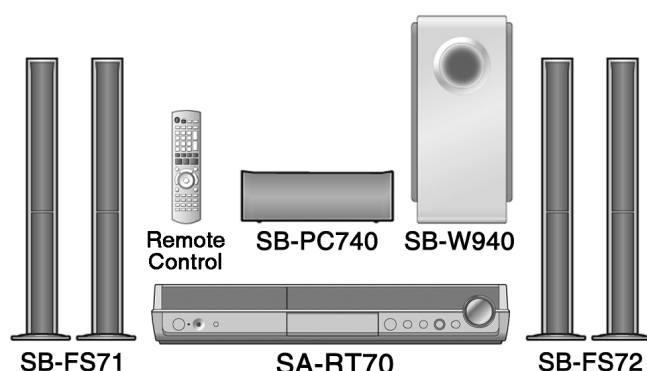
SA-RT70EB

SA-RT70EG

Vol. 1

Colour

(S).....Silver Type



Notes: This model's RAM/Digital P.C.B.
Module are - RFKNRT70EB(EB),
RFKNRT70EG(EG).

Caution:
Pairing of RAM Drive and Digital P.C.B. as "RAM/
Digital P.C.B. Module" have to be replaced together.
If the pairing is changed, RAM Drive unit has to be
re-aligned. Because the alignment data for RAM Drive
Unit is stored in Digital P.C.B..

Specification

n AMPLIFIER SECTION

RMS Output Power: Dolby Digital Mode

Front: 90 W per channel (4 Ω), 1 kHz, 10%, THD

Center: 320 W (4 Ω), 1 kHz, 10%, THD

Surround: 90 W per channel (4 Ω), 1 kHz, 10%, THD

Subwoofer: 320 W (4 Ω), 100 Hz, 10%, THD

Total RMS Dolby Digital Mode Power: 1000 W

DIN Output Power: Dolby Digital Mode

Front: 65 W per channel (4 Ω), 1 kHz, 1%, THD

Center: 220 W (4 Ω), 1 kHz, 1%, THD

Surround: 65 W per channel (4 Ω), 1 kHz, 1%, THD

Subwoofer: 220 W (4 Ω), 100 Hz, 1%, THD

Total DIN Dolby Digital Mode Power: 700 W

Input sensitivity/input impedance:

MUSIC PORT: 100 mV/4.7 k Ω

Panasonic[®]

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n FM TUNER SECTION

Frequency range: 87.50 to 108 MHz (50 kHz step)
 Antenna terminals: 75 Ω unbalanced

n AM TUNER SECTION

Frequency range: 522-1629 kHz (9 kHz step)

n RECORDER SECTION

Recording system:

DVD-RAM: DVD Video Recording format

DVD-R: DVD-Video format

DVD-R DL (Dual Layer): DVD-Video format

DVD-RW: DVD-Video format

+R

+R DL (Dual Layer)

+RW

Recordable discs

DVD-RAM: Ver. 2.0

Ver. 2.1/3X-SPEED DVD-RAM Revision 1.0

Ver. 2.2/5X-SPEED DVD-RAM Revision 2.0

DVD-R: for General Ver. 2.0

for General Ver. 2.0/4X-SPEED DVD-R Revision 1.0

for General Ver. 2.x/8X-SPEED DVD-R Revision 3.0

for General Ver. 2.x/16X-SPEED DVD-R Revision 6.0

for DL Ver. 3.0

for DL Ver. 3.x/4X-SPEED DVD-R for DL Revision 1.0

DVD-RW: Ver. 1.1

Ver. 1.x/2X-SPEED DVD-RW Revision 1.0

Ver. 1.x/4X-SPEED DVD-RW Revision 2.0

Ver. 1.x/6X-SPEED DVD-RW Revision 3.0

+R: Ver. 1.0

Ver. 1.1

Ver. 1.2

Ver. 1.3

for DL Ver. 1.0

+RW: Ver. 1.1

Ver. 1.2/4X-SPEED

Recording time Maximum 8 hours (using 4.7 GB disc)

XP: Approx. 1 hour, SP: Approx. 2 hours

LP: Approx. 4 hours, EP: Approx. 6 hours/8 hours

Playable discs

DVD-RAM: DVD Video Recording format

DVD-R: DVD-Video format, MP3, JPEG (EB only)

DVD-R: DVD-Video format, MP3, JPEG, DivX (EG only)

DVD-R DL (Dual Layer): DVD-Video format

DVD-RAM: DVD-Video format, DVD Video Recording format

+R, +R DL (Double Layer), +RW

DVD-Video, DVD-Audio, CD-Audio (CD-DA), Video CD,

CD-R/CD-RW (CD-DA, Video CD, SVCD, MP3, JPEG formatted discs) (EB only)

CD-R/CD-RW (CD-DA, Video CD, SVCD, MP3, JPEG, DivX formatted discs) (EG only)

SVCD

Optical pick-up: System with 1 lens, 2 integration units
 (662 nm wavelength for DVDs, 780 nm wavelength for CDs)

LASER Specification

Class 1 LASER Product

Wave Length: 780 nm (CDs), 662 nm (DVDs)

Laser Power: No hazardous radiation is emitted with the safety protection

Audio

Recording system: Dolby Digital 2ch

Audio in: AV1/AV2 (21 pin), AV3 (pin jack)

Input level: Standard: 0.5 Vrms,
Full scale: 2.0 Vrms at 1 kHz

Input impedance: More than 10 k Ω

Audio out: AV1/AV2 (21 pin), Audio Out (pin jack)

Output level: Standard: 0.5 Vrms,
Full scale: 2.0 Vrms at 1 kHz

Output impedance: Less than 1 k Ω

Video

Video system: PAL colour signal, 625 lines, 50 fields

NTSC colour signal, 525 lines, 60 fields

Recording system: MPEG2 (Hybrid VBR)

Video in (PAL/NTSC): AV1/AV2 (21 pin), AV3 (pin jack) 1 Vp-p 75 Ω , termination

S-Video in (PAL/NTSC): AV2 (21 pin), AV3 (S terminal) 1 Vp-p 75 Ω , termination

Video out (PAL/NTSC): AV1/AV2 (21 pin), Video Out (pin jack) 1 Vp-p 75 Ω , termination

S-Video out (PAL/NTSC): AV1 (21 pin), S-Video Out (S terminal) 1 Vp-p 75 Ω , termination

RGB out (PAL/NTSC): AV1 (21 pin) 0.7 Vp-p (PAL) 75 Ω , termination

Component video output (NTSC 480p/480i, PAL 576p/576i)

Y: 1.0 Vp-p 75 Ω , termination

P_B: 0.7 Vp-p 75 Ω , termination

P_R: 0.7 Vp-p 75 Ω , termination

Television system

(For EB only)

Tuner system: PAL-I

Channel coverage: UHF:21-68
 (For EG only)

Tuner system	Channel coverage	VHF	UHF	CATV
PAL-BGH SECAM-BG	CCIR	E2-E12, A-H2 (Italy)	21-69	S01-S05 (S1-S3) S1-S20 (M1-U10) S21-S41

RF converter output: Not provided

DV input

IEEE 1394 Standard, 4 pin : 1 pc

n GENERAL

Region code:	# 2
Operating temperature range:	5 to 40 °C
Operation humidity range:	10 to 80% RH (no condensation)
Power supply:	AC 230 to 240 V, 50 Hz
Power consumption:	145 W
Dimensions (W x H x D):	430 mm x 75 mm x 385 mm
Mass:	Approx. 5.3 kg
(Dimensions and Mass do not include the speakers.)	

Notes :

1. Specifications are subject to change without notices. Mass and dimensions are approximate.
2. Connect the supplied speakers and subwoofer to this unit only. Do not attempt to connect the supplied speakers and subwoofer to the external amplifier and so on.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

System	SC-RT70EB-S	SC-RT70EG-S
Music Center System	SA-RT70EB-S	SA-RT70EG-S
Speaker System	SB-RT70E	
Subwoofer	SB-W940P	

Speaker System	SB-RT70E
Front Speakers	SB-FS71E *1
Surround Speakers	SB-FS72E *2
Center Speaker	SB-PC740P *3

Refer to original service manual for information on *1, *2, *3.

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⚠ 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.

CONTENTS

	Page		Page
1 Safety Precautions	5	7 Accessories	17
1.1. General Guidelines	5	8 Operating Instructions Procedures	18
1.2. Caution for AC Cord	6	8.1. Remote Control Operation	18
1.3. Before Repair and Adjustment	7	8.2. Main Unit Operation	19
1.4. Protection Circuitry	7	8.3. Disc Information	20
2 Prevention of Electro Static Discharge (ESD) to		8.4. Video connections	23
Electrostatically Sensitive (ES) Devices	8	8.5. Use of Music Port	26
3 Precaution of Laser Diode	9	9 Operation Instructions	27
4 Service caution based on legal restrictions	10	9.1. (DVD) Taking out the Disc from RAM-Drive Unit when the	
4.1. General description about Lead Free Solder (PbF)	10	Disc cannot be ejected by OPEN/CLOSE button	27
5 Service Navigation	11	10 Service Mode	28
5.1. Service Information	11	10.1. (DVD) Self-Diagnosis and Special Mode Setting	28
5.2. Caution for DivX (Except EB)	11	11 Assembling and Disassembling	36
6 New Feature	12	11.1. Caution	36
6.1. About DivX	12	11.2. Disassembly flow chart	37

11.3. Main Parts Location Diagram	37	17 Block Diagram	71
11.4. Disassembly of Top Cabinet	38	18 Notes of Schematic Diagram	77
11.5. Disassembly of Front Panel	38	19 Schematic Diagram	79
11.6. Disassembly of Volume P.C.B, Panel R P.C.B and Panel L P.C.B	38	19.1. Main Circuit	79
11.7. Disassembly of Rear Panel	39	19.2. Power Circuit	87
11.8. Disassembly of Audio Main P.C.B	39	19.3. Volume Circuit, Tuner Extent Circuit, DV Circuit and Panel L Circuit	88
11.9. Disassembly of D-AMP Shield	40	19.4. D-AMP Circuit	89
11.10. Disassembly of Power P.C.B	40	19.5. Audio Main Circuit	91
11.11. Disassembly of RAM/Digital P.C.B. Module	40	19.6. Panel R Circuit	95
11.12. Disassembly of DV P.C.B	41	20 Printed Circuit Board	97
11.13. Disassembly of D-AMP P.C.B	41	20.1. Main P.C.B	97
11.14. Disassembly of Main P.C.B	42	20.2. Power P.C.B, Volume P.C.B, Tuner Extent P.C.B, DV P.C.B and Panel L P.C.B	98
12 Service Fixture & Tools	43	20.3. D-AMP P.C.B	99
13 Measurements and Adjustments	44	20.4. Audio Main P.C.B and Panel R P.C.B	100
13.1. Service Positions	44	21 Illustration of IC's, Transistors and Diodes	101
13.2. Caution for Replacing Parts	52	22 Terminal Function of IC's	102
13.3. Standard Inspection Specifications after Making Repairs	53	22.1. IC801 (C2CBHG000226) MICRO PROCESSOR	102
14 Miscellaneous	54	23 Exploded Views	103
14.1. Abbreviations	54	23.1. Cabinet Parts Location	103
15 Voltage Measurement and Waveform Chart	56	23.2. Packaging	105
15.1. Voltage Measurement	56	24 Replacement Parts List	107
15.2. Waveform	65		
16 Wiring Connection Diagram	69		

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, ensure that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, check for leakage current checks to prevent 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. Using an ohmmeter measure the resistance value, 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 5.2Ω .
When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

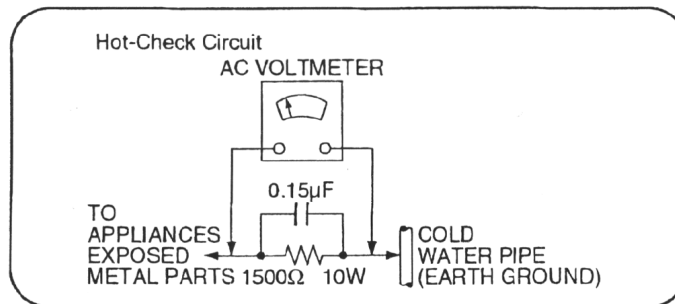


Figure 1

1.1.2. Leakage Current Hot Check (See Figure 1)

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. should the measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and re-checked before it is returned to the customer.

1.2. Caution for AC Cord

(For “EB” 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 OFF 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 shown 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.

Figure A

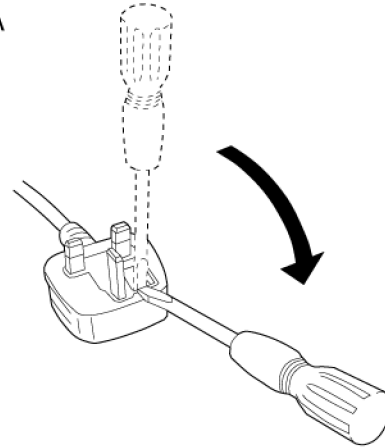
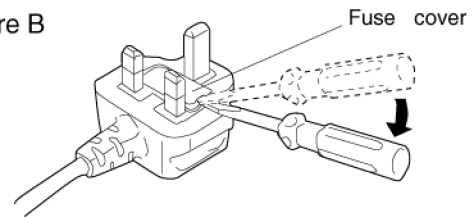


Figure B



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

Figure A

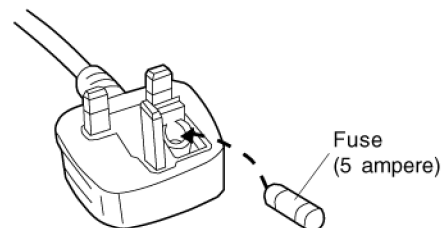
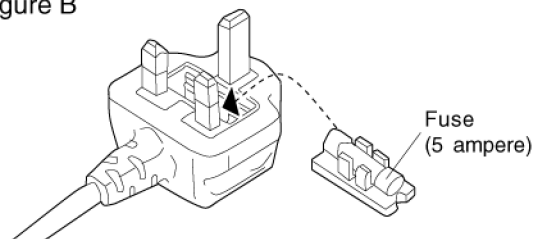


Figure B



1.3. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C1110, C1121, C1122, C1124, C1125, C1126, C1127, C2702 & C2706 through a 10 Ω , 1W resistor to ground.

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 230 V, 50 Hz in NO SIGNAL mode (at volume minimum) should be ~650 mA. (EB)
- Current consumption at AC 230-240 V, 50 Hz in NO SIGNAL mode (at volume minimum) should be ~650 mA. (EG)

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.

2 Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by 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 electro static 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 aluminium 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 remover device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge 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, aluminium 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 body 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).

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, 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.

3 Precaution of Laser Diode

CAUTION :

This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.

Wavelength : 662nm(DVD)/780nm(CD)

Maximum output radiation power from pick up : 100 μ W/VDE

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

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

ACHTUNG :

Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge : 662nm(DVD)/780nm(CD)

Maximale Strahlungsleistung der Lasereinheit :100 μ W/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

ADVASEL :

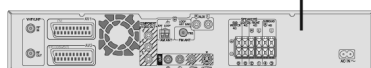
I dette a apparat anvendes laser.

CAUTION!

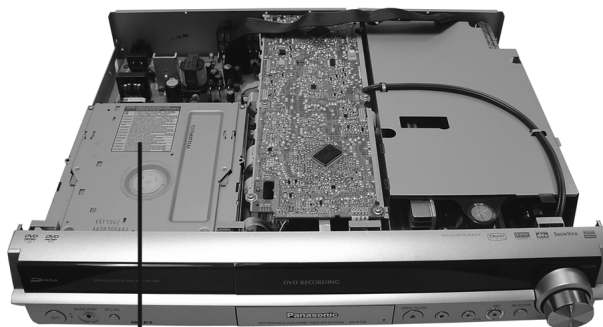
THIS PRODUCT UTILIZES A LASER.

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

n Use of Caution Labels



(Back of product)



DANGER - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. FDA 21 CFR/Class IIIb	
注意	— 打开时有可见及不可见激光辐射。避免光束照射。
注意	— ここを開くと可視及び不可視レーザー光が出ます。ビームを見たり、触れたりしないでください。
CAUTION - CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. IEC60825-1 +A2/Class 3B	
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE, CLASSE 3B, EN CAS D'OUVERTURE. EVITER UNE EXPOSITION AU FAISCEAU.	
FORSIGTIG - SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 3B, NÅR LÅGET ER ÅBENT. UNDGÅ AT BLIVE UDSAT FOR STRÅLEN.	
VARO - AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTEILYÄ. VÄRÖ ALTISTUMISTA SÄTEELLE.	
VARNING - KLASS 3B SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK EXPONERING FÖR STRÅLEN.	
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG KLASSE 3B, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. (IEC60825-1)	
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	
ADVASEL - SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FÖR STRÅLING.	
VARO! - AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTEILYÄ. ÄLÄ KATSO SÄTEESSEN.	
VARNING - SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN.	
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.	
ADVASEL - SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FÖR STRÅLEN.	

(Inside of product)

4 Service caution based on legal restrictions

4.1. 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%

5 Service Navigation

5.1. 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.

1) This service manual does not contain the following information, because of the impossibility of servicing at component level.

- * Schematic Diagram, Block Diagram and P.C.B. layout of RAM/Digital P.C.B. Module.
- * Parts List for individual parts of RAM/Digital P.C.B. Module.
- * Exploded View and Parts List for individual parts of RAM/Digital P.C.B. Module.

2) The following category are recycle module part. Please send them to Central Repair Center.

- * RAM/Digital P.C.B. Module (RT70EB:RFKNRT70EB, RT70EG:RFKNRT70EG)

5.2. Caution for DivX (Except EB)

Please will always pass the customer "Warning for Customers Who Use the DivX Video-on-Demand content." with the product and get it when you unavoidably exchange EEPROM or P.C.B. including EEPROM (When the product is exchanged, it is the same.).

You must use print attached to service part (EEPROM or P.C.B. including EEPROM) or must use copy of print below as "Warning for Customers who use the DivX Video-on-Demand content."

Information needed without fail for the customer for whom it is used continuing DivX Video-on-Demand Service to "Manual for the customer" is recorded.

Appendix:

- * Parts that memorize user's information are only EEPROM.
- * The registration of Registration Code is possible for half a year up to 6 recorders up to 10 recorders a year.
Replacement of EEPROM or P.C.B. including EEPROM spends one of this.

Registration Code is memorized in EEPROM (RFKFxxxxxx).

Model without VHS: Main P.C.B.

Model with VHS: Digital I/F P.C.B. (Power & DVD I/F/P.C.B.)

If exchange above P.C.B. or EEPROM, new registration Code differ from previous Registration Code will be generated. In this case if your customer uses DivX Video-on-Demand service, he/she will no longer be able to play any content that he/she purchased under that same registration code.

Therefore your customer will need to obtain and register the new registration code.

*Copy this page and cut on the dotted line and give the lower half to your customer.

Warning for Customers who use the DivX Video-on-Demand content.

1. The registration code has been changed for the repair of the product or the product exchange.
2. Obtain and register a new registration code, otherwise you will no longer be able to play DivX Video-on-Demand content.
3. Follow the procedure on the DivX Video-on-Demand web site to register at

<http://vod.divx.com/>

- * If you do not use the DivX Video-on-Demand content, please ignore this warning.

6 New Feature

6.1. About DivX

6.1.1. General

DivX is a new video compressing format that is applied MPEG4 technology to improve image quality and the compressibility, and it is developed by the DivXNetworks, Inc., Video file of high resolution and the high picture quality can be made though it is a high compressibility.

DivX codec is necessary for converting video to DivX file and .playback files made.

6.1.2. Operating Instructions about DivX Video-on-Demand Content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the on line instructions for purchasing DivX VOD content to enter unit's registration code and register unit. Visit www.divx.com/vod for more information.

Display unit's registration code.



- **We recommend that you make a note of this code for future reference.**
- **After playing DivX VOD content for first time, another registration code is then displayed in "DivX Registration". Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play content on this unit, you will no longer be able to play any content that you purchased using previous code.**
- If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. ("Authorization Error" is displayed.)

Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times.

When you play this content, remaining number of plays is displayed. You cannot play this content when number of remaining plays is zero. ("Rental Expired" is displayed.)

When playing this content

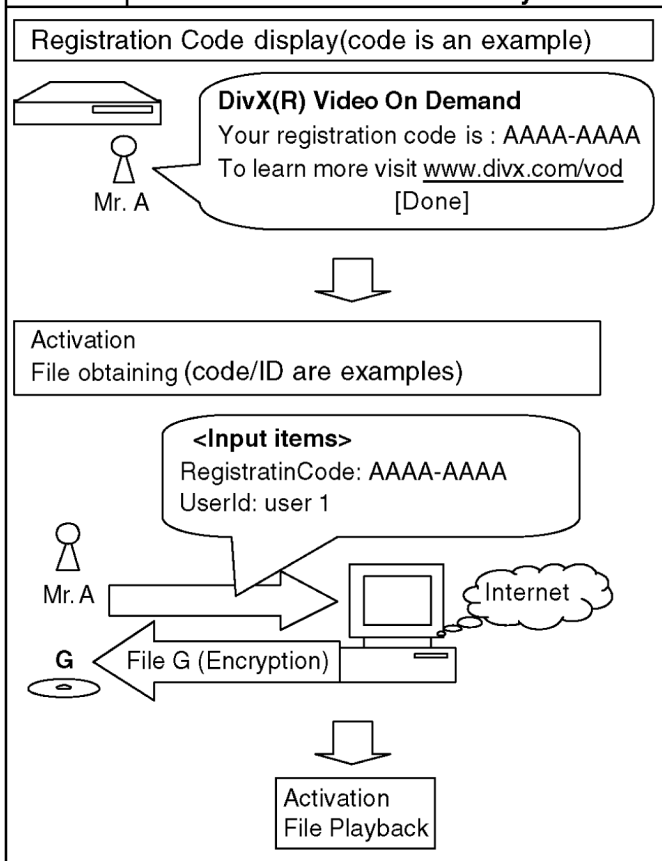
- Number of remaining plays is reduced by one if
 - you press [POWER].
 - you press [STOP].
 - you press [◀◀ SKIP], [◀◀ SLOW/SEARCH] or [▶▶ SLOW/SEARCH] etc. and arrive at another content or start of content being played.
 - scheduled recording starts on HDD.
 - you press [DRIVE SELECT] to change drive.

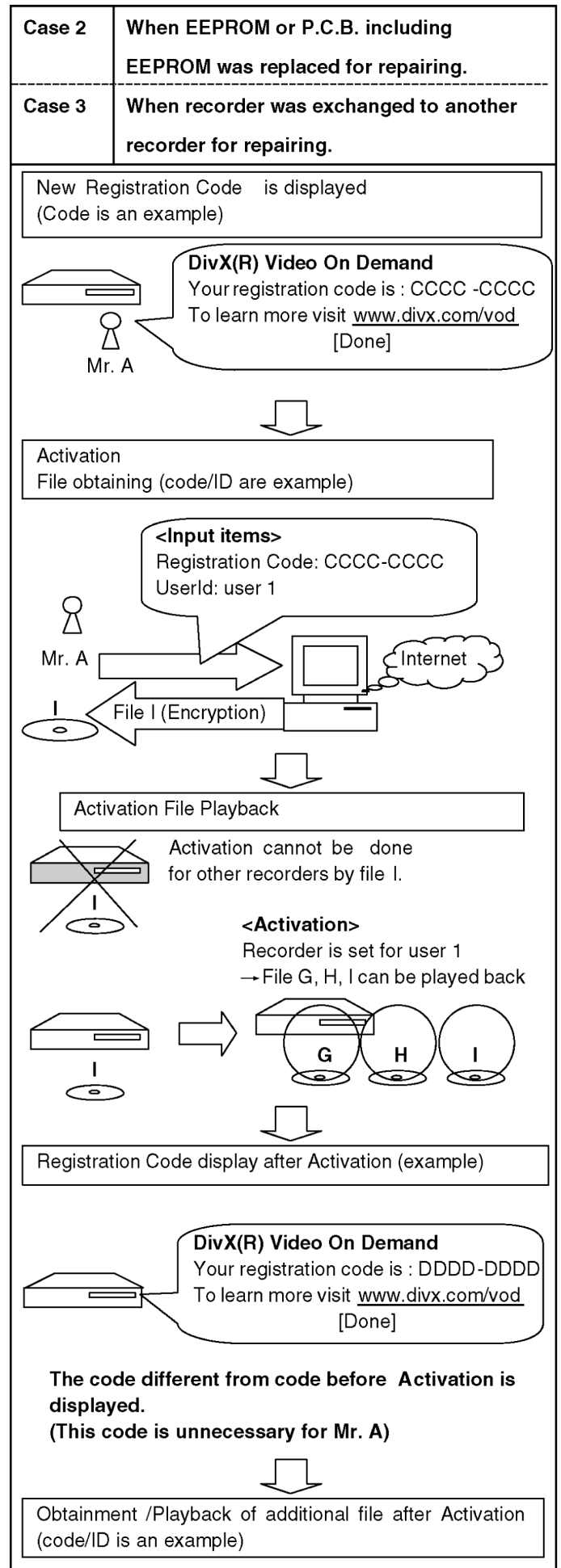
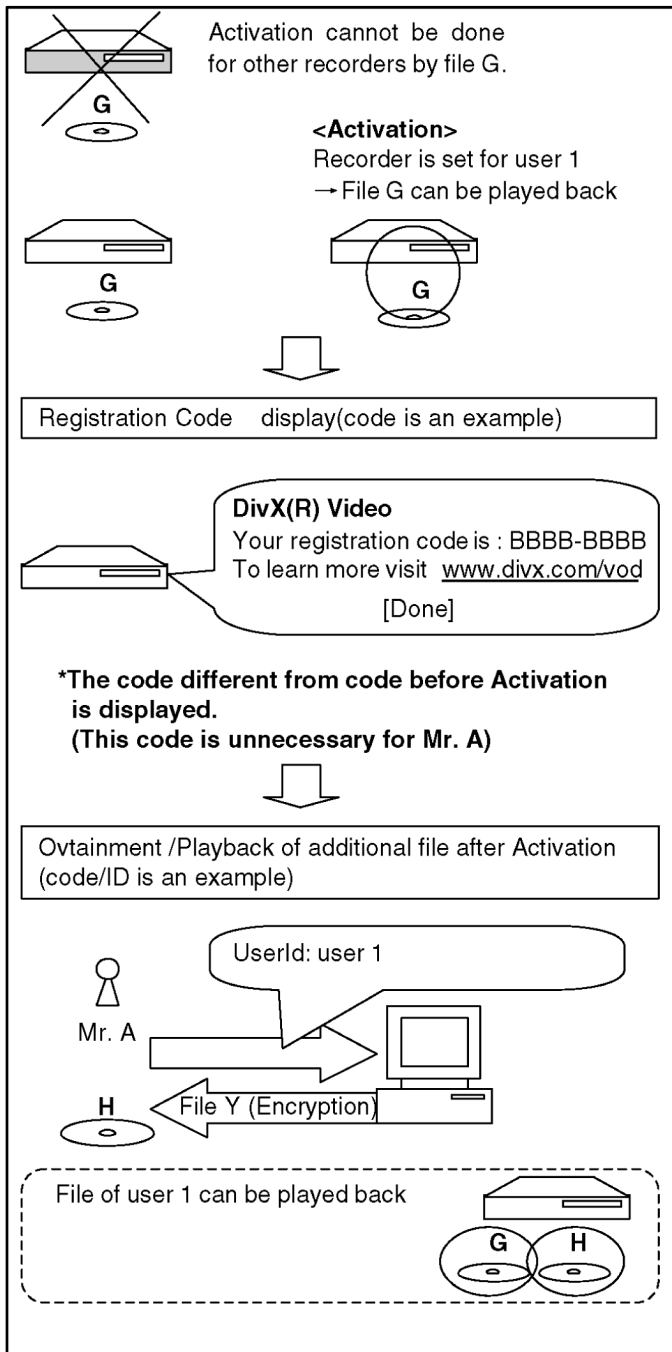
* Resume functions do not work.

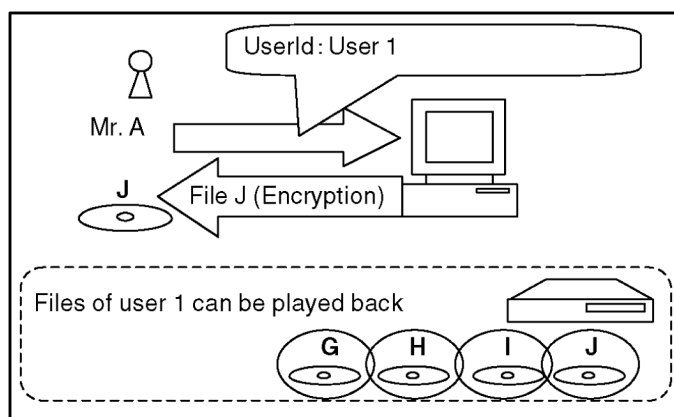
Typical Playback procedure of DivX VOD (Video On Demand)

Case 1	When DivX VOD is used newly.
Case 2	When EEPROM or P.C.B. including EEPROM was replaced for repairing.
Case 3	When recorder was exchanged to another recorder for repairing.
Case 4	When customer own second recorder
Case 5	When owner of recorder was changed to another.

Case 1. When DivX VOD is used newly.

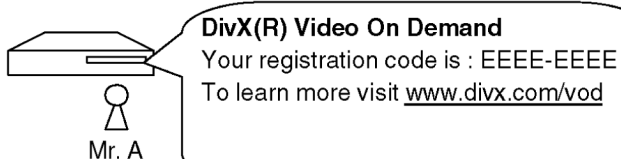




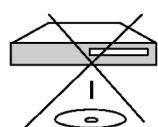
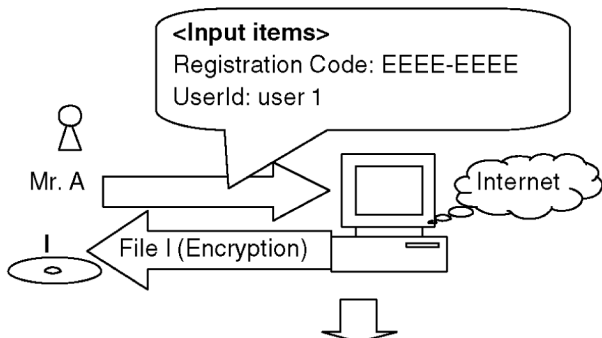


Case 4 When customer own second recorder

Registration Code display of second recorder (code is an example)

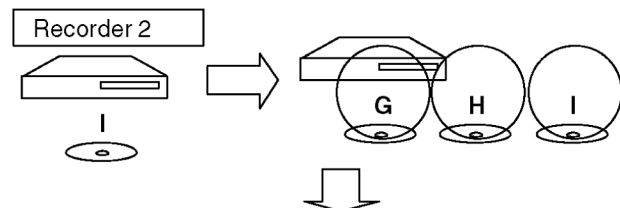


Activation
File obtaining (code/ID are example)

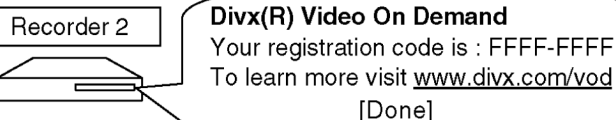


Activation cannot be done for other recorders by file I.

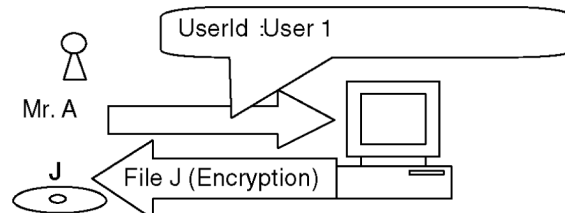
Recorder is set for user 2
→ files G, H, I



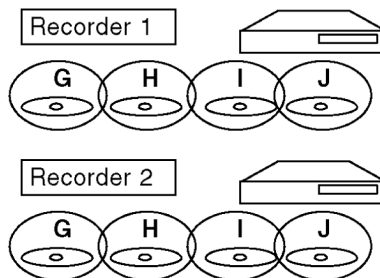
Registration Code display after Activation (example)



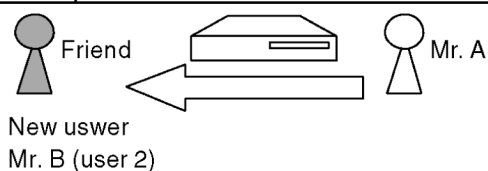
Obtainment /Playback of additional file after Activation (code/ID is an example)



Files of user 1 can be played back



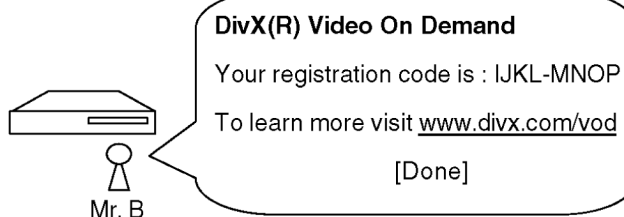
Case 5 When owner of recorder was changed to another.



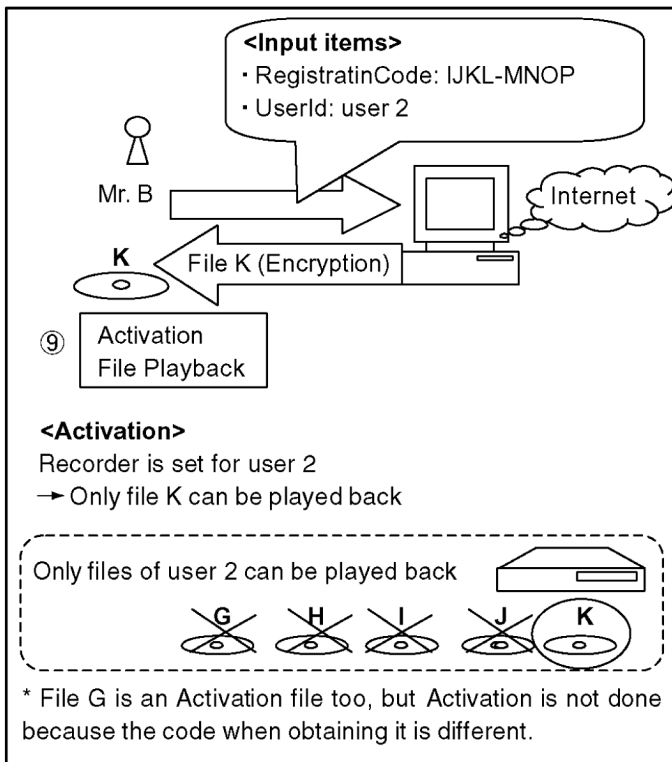
It is necessary to update information on the recorder

⑦ Activation

Registration Code is displayed



⑧ Activation
File obtaining (code/ID are example)



File kind

(There are two kind of Activation files as follows too.)

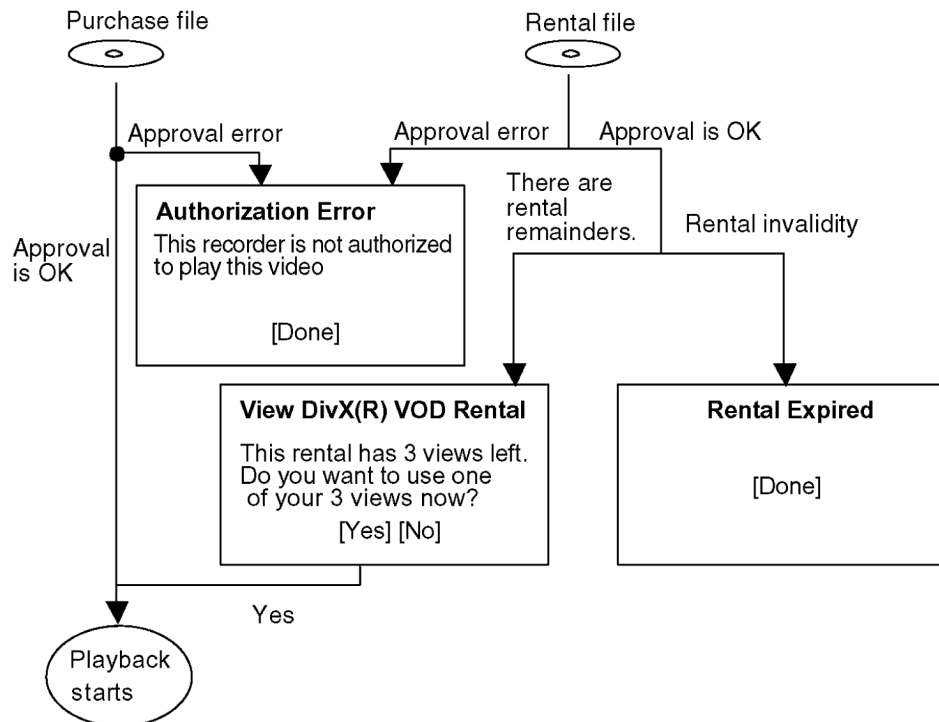
- Rental : There is a playback limitation
- Purchase : Unrestricted

Also there is next file as DRM files besides the above-mentioned.

·**Base:** It is not necessary to approve though the contents is being encoded. → If it is recorder/player for DRM, any can play back. (It is the same as usual DivX file when seeing from user.)

Screen shift (Error display)

Whether approval is OK or not: Whether the recorder is corresponding to User information on the file or not



6.1.3. About DivX DRM

Divx file includes file to which DRM(Digital Right Management) is applied and file not applied.

This item is a content that relates only in treating file to which DRM is applied.

1. Registration Code display function
2. User's registration and approval function
3. Rental management function

1) Registration Code display function

Registration Code is alphanumeric character sequence 8bytes inputted as recorder information, in case a use purchases or rent a DivX DRM file in a network.

Registration code is a character sequence generated at random, and differs in each recorder.

Moreover, Registration code is updated by new user authentication ever if same recorder.

2) User's registration and approval function

- Only one user can register for one recorder. If user's registration is not done with the recorder, DivX file cannot be played back.
 - User's registration is performed only when a DivX DRM file is first chosen by recorder
 - DivX DRM file that can perform user's registration is only a file that is registered Registration Code and purchased or rented.
 - User authentication is performed whenever DivX DRM file is played back.
- Error message is displayed when failing in user's registration and approval.

3) Rental management function

There are purchase file without registration of number of playback and rental files with registration of number of playback as Divx file. Number of playback of rental file is counted by the recorder.

When rental file is played, remaining number of times that can be played back will be shown to users, recorder requests users to input yes or no.

Following specifications have been installed for the rental files in the purpose to clarify the count condition of number of times of playback.

- Conditions on counting number of times of play.
 1. When a file was opened successfully. (At the time of playback start)
 2. When you have done review operation from the start. (Skip to file head)
 - At this time, remaining number of times that can be played back and confirmation message [Do you play really?] are displayed.
 - When the playback point has been skipped to the top of title, number of playback is not counted if the top of title was not recognized.
 - Even if the power failure occurs after start of playback of rental file, number of times of playback counted at start of the playback is held as it is. (Though playback stops by power failure, the number of times of playback is not counted.)

When it has reached head of title, the playback is ended, and screen becomes DivX menu (There is no resume) and then cursor is located on title that has been played back.

Then if the same file was continuously played back, it begins to playback from the file head.

Note:

Above mentioned stored user information and number of times of playback are not erased by update of firmware or by initialization by test mode.

7 Accessories

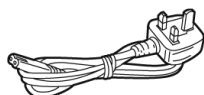
Note : Refer to Packing Materials & Accessories (Section 24) for part number.



Remote
control



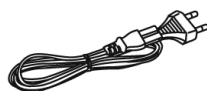
Speaker
label



AC cord (EB)



Speaker cord



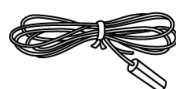
AC cord (EG)



AM loop antenna



Video cable (EG)



FM antenna



RF coaxial
cable

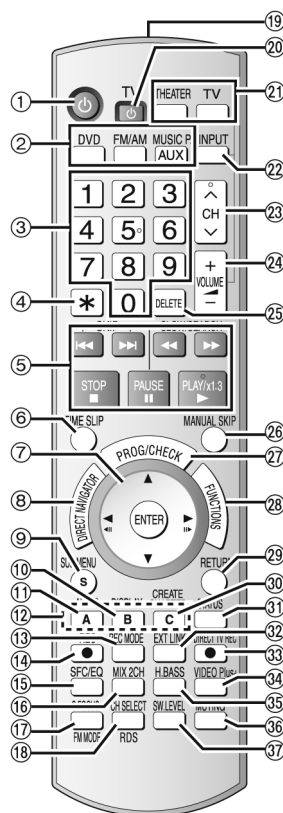


Adaptor
(EB)

8 Operating Instructions Procedures

8.1. Remote Control Operation

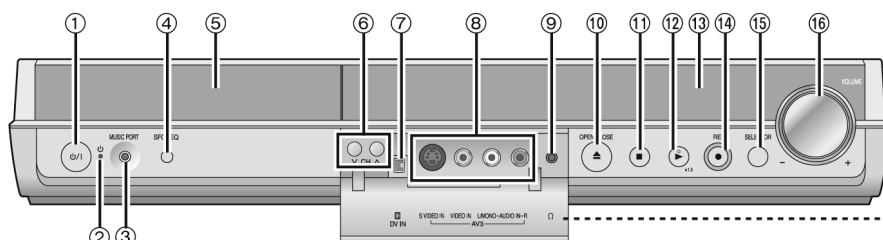
Remote control



- ① Turn the unit on
- ② Select the source
DVD, FM/AM, AUX/F MUSICP
- ③ Select channels and title numbers, etc./
Enter numbers
- ④ Cancel
- ⑤ Basic operations for recording and play
- ⑥ Skip the specified time
- ⑦ Selection (▲, ▼, ◀, ▶)/Enter, Frame-by-frame (◀■, ■▶)
- ⑧ Show Direct Navigator/Top menu
- ⑨ Show sub menu
- ⑩ Show on-screen menu
- ⑪ Select audio
- ⑫ Manual tuning operation
- ⑬ Change recording mode
- ⑭ Start recording
- ⑮ Change the sound quality
- ⑯ ☐ Enhance surround sound
- ⑰ Enhance the sound from the center speaker / Change radio reception mode
- ⑱ Select speaker channels/RDS
- ⑲ Remote control signal output
- ⑳ Turn on the television
- ㉑ **Switches the remote control operation between the unit and the TV. Press [THEATER] when operating this unit, or press [TV] when operating the television.**
- ㉒ Input select (AV1, AV2, AV3 or DV)
- ㉓ Channel select
- ㉔ Adjust the volume
- ㉕ Delete items
- ㉖ Skip 30 seconds forward
- ㉗ Show timer recording programme list
- ㉘ Show FUNCTIONS window
- ㉙ Return to previous screen
- ㉚ Create chapters
- ㉛ Show status messages
- ㉜ Linked timer recordings with external equipment
- ㉝ Direct TV recording
- ㉞ Show VIDEO Plus+ screen
- ㉟ Enhance the bass sound
- ㊱ Muting
- ㊲ ☐ Adjust the subwoofer level /
- MIX 2CH - Down-mix signals to 2 channels

8.2. Main Unit Operation

This unit

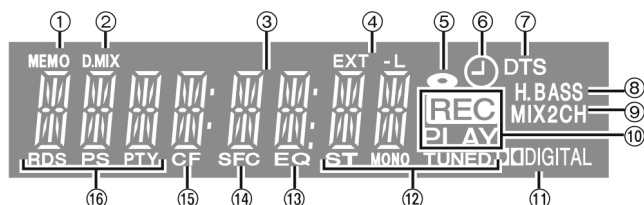


Opening the front panel
Press down the ... part with your finger.



- ① **Standby/on switch** (⏻/⏻)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power. To save power, unplug it from the household mains socket.
- ② **Standby/on indicator** (⏻)
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ Connector for an external device
- ④ **SURROUND ENHANCER**
Enhance surround sound/SURROUND
○ ENHANCER indicator
- ⑤ Disc tray
- ⑥ Channel select
- ⑦ Connector for a digital video (DV) camcorder
- ⑧ Connector for external equipment
- ⑨ Connector for headphones
- ⑩ Open/close disc tray
- ⑪ Stop
- ⑫ Start play
- ⑬ Display (→ below)
- ⑭ Start recording/Specify the time to stop recording
- ⑮ Select the source
DVD→FM→AM→AUX→F MUSICP→Return to DVD
- ⑯ Turn up/down the volume

The unit's display



- ① Radio broadcast display : Channel preset memory indicator
- ② D.MIX indicator
- ③ Main display section
- ④ Linked timer recordings with external equipment indicator
- ⑤ Disc indicator
This indicator lights up when a disc that is supported by this unit is inserted.
- ⑥ Timer recording indicator
- ⑦ DTS indicator
- ⑧ H.BASS indicator
- ⑨ MIX2CH indicator
- ⑩ Rec/Play indicator
- ⑪ Dolby Digital indicator
- ⑫ Radio broadcast display
TUNED : Receiving radio signal/ST : Stereo/
MONO : Monaural
- ⑬ Equalizer indicator
- ⑭ Sound field control indicator
- ⑮ Center Focus indicator
- ⑯ Radio broadcast display
RDS: Receiving RDS (Radio Data System) signal
PS: Programme station indicator
PTY: Programme type indicator

8.3. Disc Information

8.3.1. For Recording & Play

Discs you can use for recording and play							
Disc type	DVD-RAM	DVD-R	DVD-R DL ^{※1} (dual layer on single side)	DVD-RW	+R ^{※2}	+R DL ^{※1} (double layer on single side)	+RW
Indication in these instructions	RAM	-R Before finalization	-R DL Before finalization	-RW(V) Before finalization	+R Before finalization	+R DL Before finalization	+RW
		DVD-V After finalization	DVD-V After finalization	DVD-V After finalization	DVD-V After finalization	DVD-V After finalization	
Logo					—	—	—
Recording format (→ below)	VR	DVD-Video	DVD-Video	DVD-Video	+VR	+VR	+VR
Re-writable ^{※3}	✓	×	×	✓	×	×	✓
What you can do on this unit							
Recording broadcasts that allow one copy	✓ ^{※4}	×	×	×	×	×	×
Recording both M 1 and M 2 of bilingual broadcasts	✓	×	×	×	×	×	×
Recording 16:9 aspect picture	✓	×	×	×	×	×	×
Creating playlists	✓	×	×	×	×	×	×
Compatibility							
Usable high speed recording disc type ^{※5}	Up to 5x	Up to 16x	Up to 4x	Up to 6x	Up to 16x	Up to 2.4x	Up to 4x ^{※6}
Play on other players	Only on DVD-RAM compatible players. (It is not possible to finalize the disc.)	✓	✓ ^{※7}	✓	✓	✓ ^{※8}	✓ (It is not possible to finalize the disc.)

✓: Can do, X: Cannot do

- We recommend using Panasonic discs. We also recommend using DVD-RAM discs with cartridges to protect them from scratches and dirt.
 - You may not be able to record depending on the condition of the discs and you may not be able to play due to the condition of the recording.
 - For the recording time, refer to "Recording modes and approximate recording times".
 - You cannot record programmes that allow "One time only recording" to CPRM compatible DVD-R and DVD-RW on this unit. You can record other programmes as DVD-Video format.
- ※1 You cannot continue a recording from the first layer to the second layer on dual- or double-layer discs. To record onto the second layer, you must first close the first layer using the "Close First Layer" item in DVD Management. You will no longer be able to record to the first layer after you do this.
When playing a title recorded on both layers, video and audio may momentarily cut out when the unit is switching layers.
- ※2 You may not be able to use +R recorded on this unit in another Panasonic DVD recorder and vice versa. Once the disc is finalized, however, it can be played in the other unit.
- ※3 The amount of the recordable disc space doesn't increase even if the programme is deleted when you use a one time recording disc.
- ※4 CPRM compatible discs only.
- ※5 This unit can use the high-speed recording discs shown in the chart, but using them will not shorten the recording time.
- ※6 You can play 8x recording speed discs recorded on another equipment.
- ※7 Play on DVD-R DL compatible equipment.
- ※8 Play on +R DL compatible equipment.

Regarding recording format

VR (DVD Video Recording) format

This is a recording method which allows you to freely record and edit television broadcasts and so on.

- Digital broadcasts that allow "One time only recording" can be recorded to a CPRM compatible disc. You can record to CPRM compatible DVD-RAM on this unit.
- Play is only possible on a compatible DVD player.

DVD-Video format

This recording method is the same as commercially available DVD-Video.

- Digital broadcasts that allow "One time only recording" cannot be recorded.
- You can play on compatible equipment such as DVD players after finalizing the disc on this unit.

+VR (+R/+RW Video Recording) format

This is a method for recording moving pictures to +R/+RW discs. You can play back such discs recorded in this method in a similar way as contents recorded in the DVD-Video format.

- Digital broadcast that allow "One time only recording" cannot be recorded.
- After finalizing the disc or creating the top menu, you can play the disc on DVD players and other equipment.

8.3.2. For Play only

Play-only discs

Disc type	DVD-Video	DVD-Audio	DVD-RW (VR format)
Indication in these instructions	DVD-V	DVD-A	-RW(VR)
Logo	 		
Instructions	High quality movie and music discs	High fidelity music discs	DVD-RW recorded on another DVD Recorder ^{※1} • You can play programmes that allow "One time only recording" if they have been recorded to a CPRM compatible disc. • By formatting the disc, you can record to it in DVD-Video format. • It may be necessary to finalize the disc on the equipment used for recording.

Disc type	Audio CD	Video CD	SVCD※2	DVD-R			CD		
Indication in these instructions	CD	VCD		MP3	DivX (EG)	JPEG	MP3	DivX (EG)	JPEG
Logo									
Instructions	Music and audio recorded (including CD-R/RW※1)	Music and video recorded (including CD-R/RW※1)		CD-R/RW and DVD-R※1 with MP3/Still pictures (JPEG and TIFF)					

- The producer of the disc can control how discs are played. So you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully.
 - Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.
- ※1 Close the session after recording. Play may be impossible on some discs due to the condition of the recording.
 ※2 Conforming to IEC62107.

Discs that cannot be played

- 2.6 and 5.2 GB DVD-RAM, 12 cm
- 3.95 and 4.7 GB DVD-R for Authoring
- DVD-R recorded in VR format
- DVD-R (DVD-Video format), DVD-R DL, DVD-RW (DVD-Video format), +R, +R DL recorded on another unit and not finalized.
- DVD-Video with a region number other than "2" or "ALL"
- Blu-ray
- DVD-ROM, +R (8 cm), CD-ROM, CDV, CD-G, Photo CD, CVD, SACD, MV-Disc, PD, DivX Video Disc, "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107, etc.

Types of disc for the type of connected TV

When you use the discs recorded either PAL or NTSC, refer to this table.

(✓: Possible to view, X: Impossible to view)

TV type	Disc	Yes/No
Multi-system TV	PAL	✓
	NTSC	✓ ^{※3}
NTSC TV	PAL	X
	NTSC	✓ ^{※4}
PAL TV	PAL	✓
	NTSC	✓ ^{※5} (PAL60)

※3 If you select "NTSC" in "TV System", the picture may be clearer.

※4 Select "NTSC" in "TV System".

※5 If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.

The manufacturer accepts no responsibility and offers no compensation for loss of recorded or edited material due to a problem with the unit or recordable media, and accepts no responsibility and offers no compensation for any subsequent damage caused by such loss.

Examples of causes of such losses are

- A disc recorded and edited with this unit is played in a DVD Recorder or computer disc drive manufactured by another company.
- A disc used as described above and then played again in this unit.
- A disc recorded and edited with a DVD Recorder or computer disc drive manufactured by another company is played in this unit.

8.3.3. To play MP3, DivX and still pictures (JPEG/TIFF)

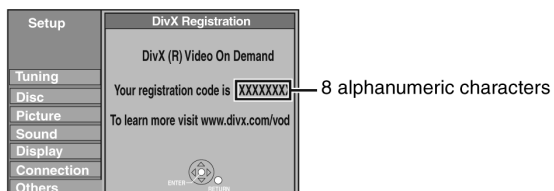
Regarding DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the on line instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod.

Display the unit's registration code.

("DivX Registration" in "Others" tab)



- After playing DivX VOD content for the first time, new registration code is then displayed in "DivX Registration". Do not use this registration code to purchase or rent DivX VOD content. If you use this code to purchase (rent) DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased (rented) using the old code.
- If you purchase or rent DivX VOD content using a registration code different from this unit's code, you will not be able to play that content. ("Authorization Error." is displayed.)

Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("Rental Expired." is displayed.)

When playing this content

- The number of remaining plays is reduced by one if
 - you press [⏮].
 - you press [■] (STOP).
 - you press [⏮] (SKIP) or [⏮, ⏭] (SEARCH) etc. and arrive at another content or the start of the content being played.
- Resume play function does not work.

Regarding MP3, DivX and still pictures

- Compatible formats: ISO9660 level 1 or 2 (except for extended formats) and Joliet
- This unit is compatible with multi-session but reading or play of the disc may take time if there are a lot of sessions.
- Operation may take time to complete when there are many files (titles or tracks) and/or folders (groups) and some files (tracks) may not display or be playable.
- English alphabet and Arabic numerals are displayed correctly. Other characters may not be displayed correctly.
- The display order on this unit may differ from how the order is displayed on a computer.
- Depending on how you create the disc (writing software), files (tracks) and folders (groups) may not play in the order you numbered them.
- This unit is not compatible with packet-write format.
- Depending on the recording conditions, some items may not be playable.

MP3

Playable discs	CD-R/RW
File format	MP3 Files must have the extension ".mp3" or ".MP3".
Maximum number of folders (groups)	300 (including the root folder)
Maximum number of files (tracks)	3000 ^{※1}
Bit rates	32 kbps to 320 kbps
Sampling frequency	16 kHz/22.05 kHz/24 kHz/32 kHz/44.1kHz/48 kHz
ID3 tags	Not compatible

- If there is a large amount of still picture data etc. within a MP3 file, play may not be possible.

DivX

Playable discs	DVD-R, CD-R/RW
File format	DivX Files must have the extension ".DIVX", ".divx", ".AVI" or ".avi". 
Maximum number of folders	300 (including the root folder)
Maximum number of files	200 ^{※1}
Support version	DivX ver.3.11, 4.x, 5.x - Video - Number of stream: Up to 1 - Codec: DIV3, DIV4, DIVX, DV50 - Picture size: 32 x 32 to 720 x 576 - FPS(Frame Per Second): Up to 30 fps - Audio - Number of stream: Up to 8 - Format: MP3, Dolby Digital, MPEG - Multi channel: Dolby Digital is possible. MPEG multi is 2ch conversion. - GMC (Global Motion Compensation) is not supported.

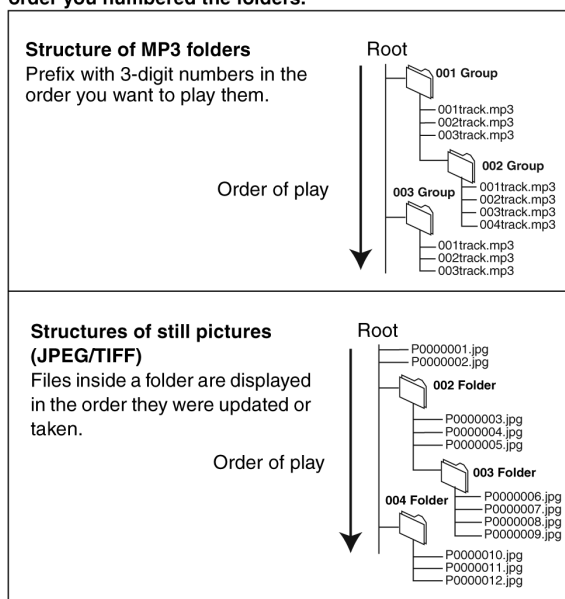
Still pictures (JPEG, TIFF^{※2})

Playable discs	CD-R/RW
File format	JPEG, TIFF (non-compressed RGB chunky format) Files must have the extension ".jpg", ".JPG", ".tif" or ".TIF".
Number of pixels	34×34 to 6144×4096 (Sub sampling is 4:2:2 or 4:2:0)
Maximum number of folders	300 (including the root folder)
Maximum number of files	3000 ^{※1}
MOTION JPEG	Not compatible

※1 Total number of recognizable file including MP3, JPEG, DivX and other type of files is 4000.

※2 Operation may take time to complete when playing TIFF format still pictures.

You can play MP3 and still pictures (JPEG/TIFF) on this unit by making folders as shown below. However depending on how you create the disc (writing software), play may not be in the order you numbered the folders.



- When the highest level folders are "DCIM" folders, they are displayed first on the tree.

8.4. Video connections

8.4.1. Connecting to a television only

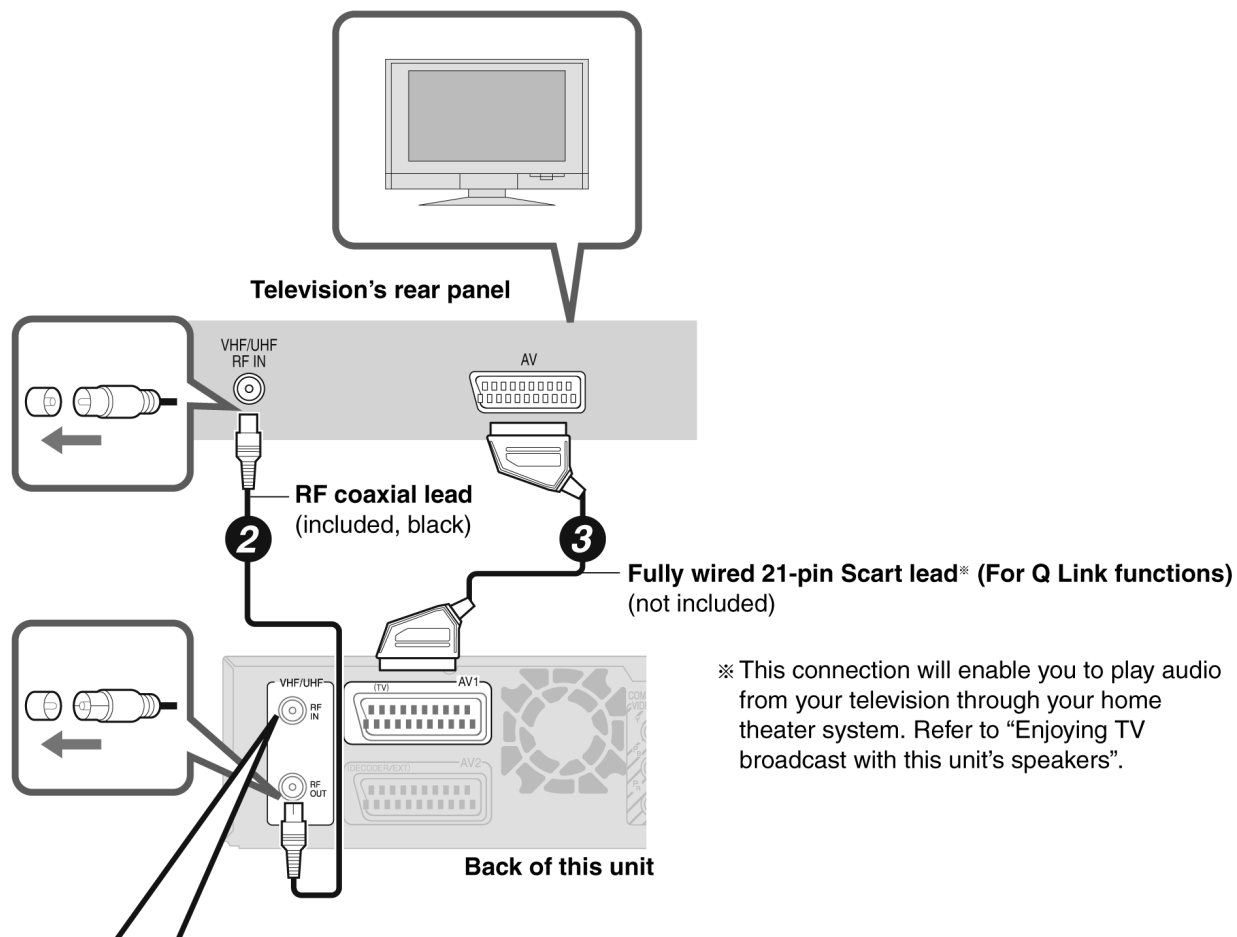
A Connecting to a television only

Using a fully wired 21-pin Scart lead

- You can use a variety of Q Link functions by connecting the unit to a Q Link compatible television.
- You can enjoy high-quality viewing by connecting the unit to an RGB compatible television.

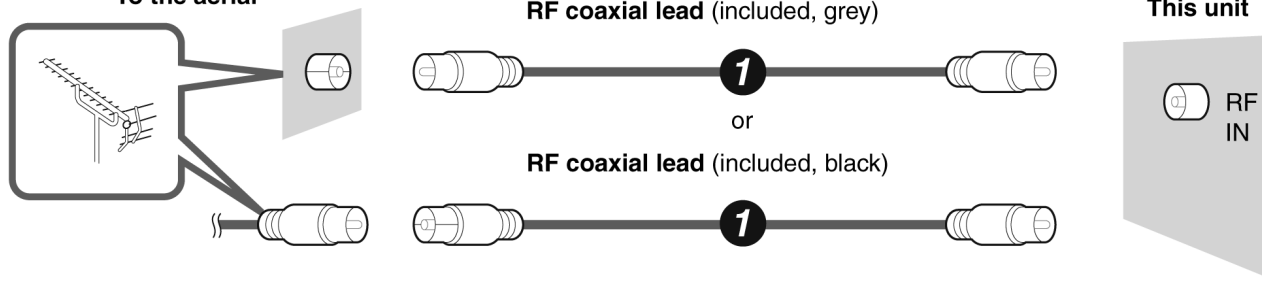
Required setting

“AV1 Output” in the Setup menu



Use one of the RF coaxial lead (black or grey) to connect this unit’s RF IN terminal to your aerial socket or aerial lead.

To the aerial



Connecting a terminal other than the 21-pin Scart terminal.

8.4.2. Connection to a television and Satellite/Digital terrestrial receiver

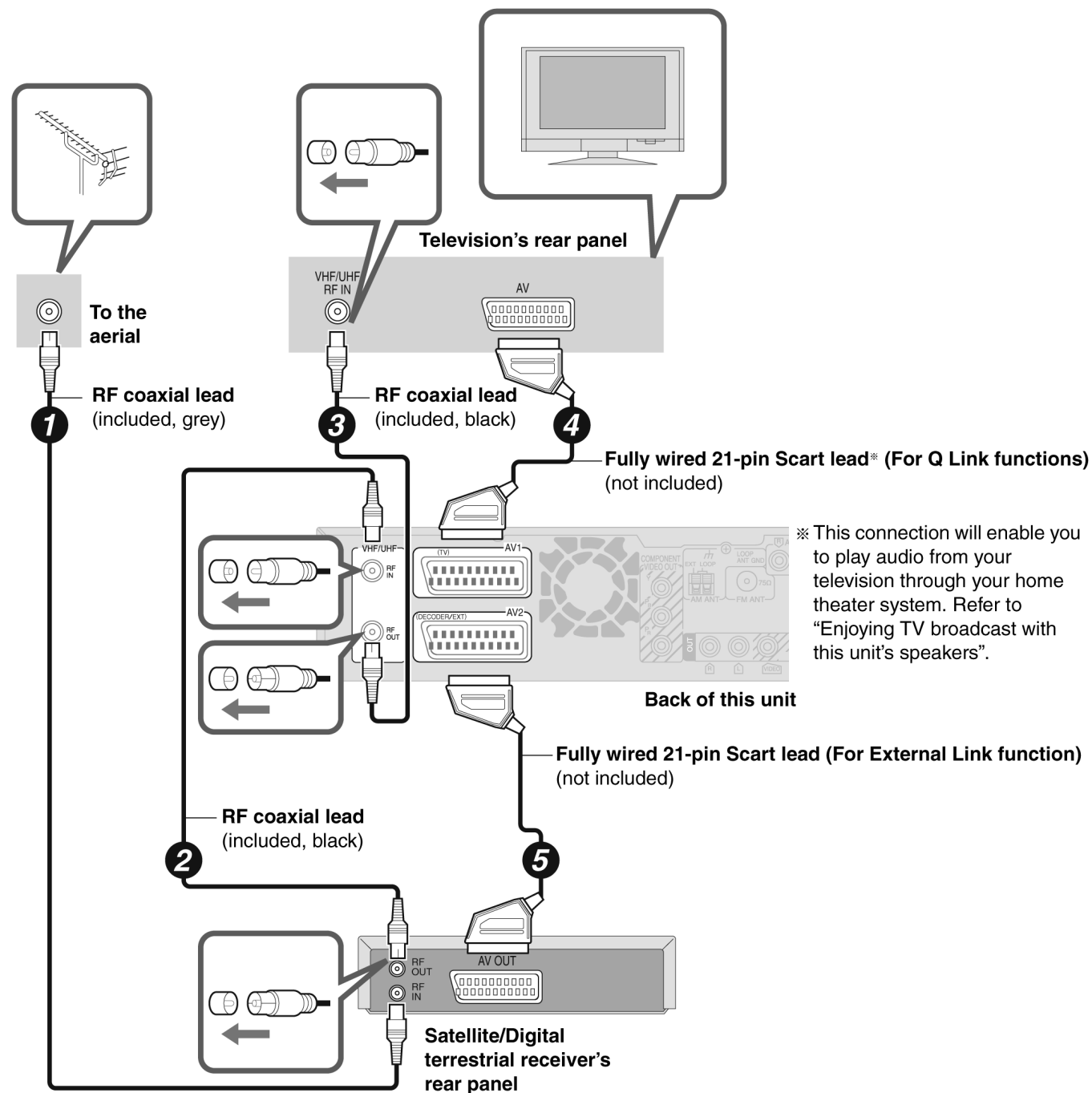
B Connecting to a television and Satellite/Digital terrestrial receiver

Using a fully wired 21-pin Scart lead

- You can use a variety of Q Link functions by connecting the unit to a Q Link compatible television.
- You can enjoy high-quality viewing by connecting the unit to an RGB compatible television.

Required setting

“AV1 Output” and “AV2 Input” in the Setup menu



To view satellite/digital terrestrial programmes

Press [INPUT] to select the input channel “AV2” or put this unit in standby mode.

To record satellite/digital terrestrial programmes

Refer to “Recording from a satellite/digital terrestrial receiver”.

Connecting a terminal other than the 21-pin Scart terminal.

8.4.3. Connection to a television and VCR

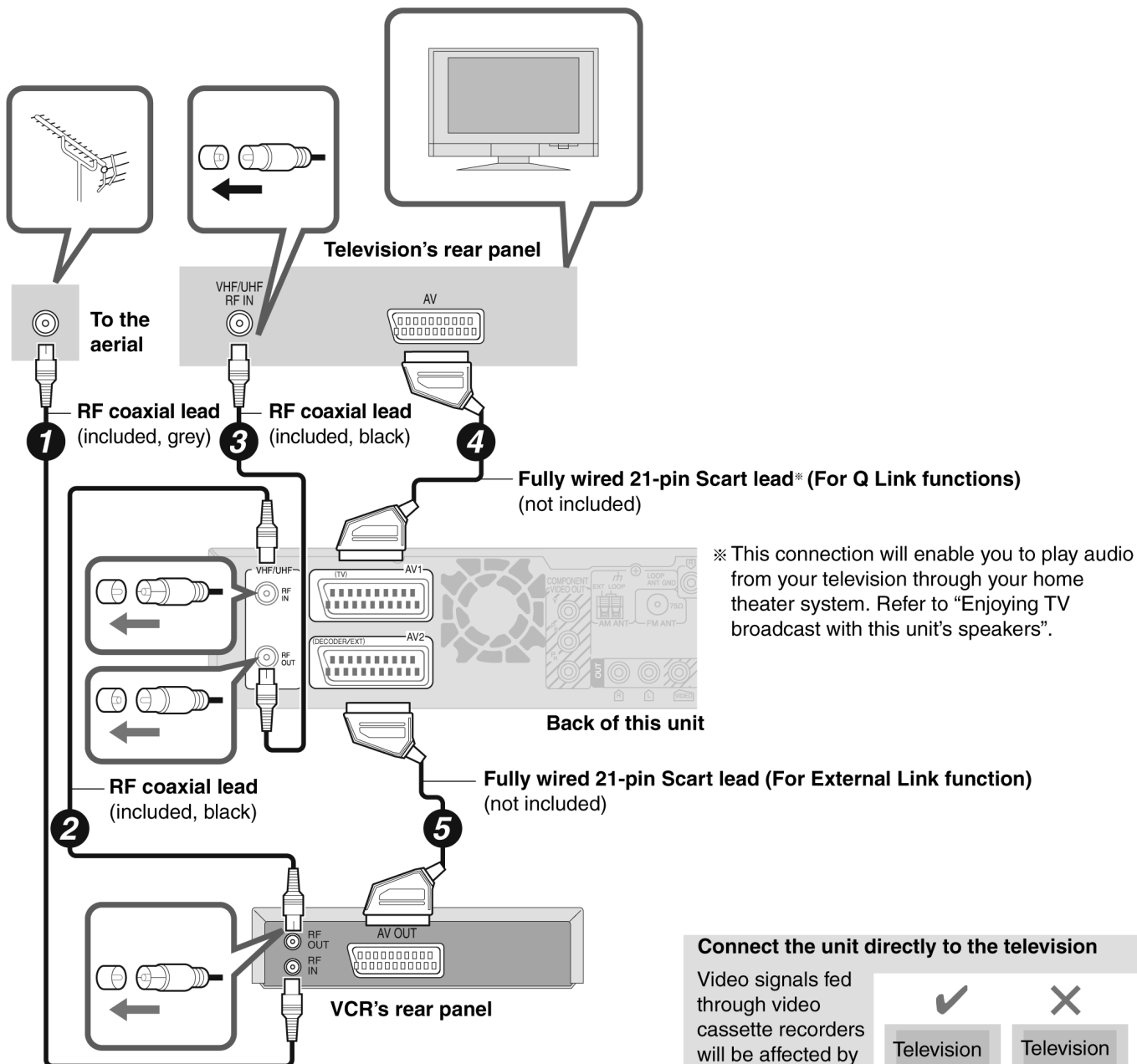
C Connecting to a television and VCR

Using a fully wired 21-pin Scart lead

- You can use a variety of Q Link functions by connecting the unit to a Q Link compatible television.
- You can enjoy high-quality viewing by connecting the unit to an RGB compatible television.

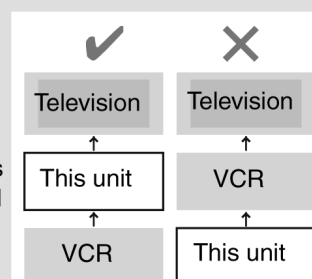
Required setting

“AV1 Output” and “AV2 Input” in the Setup menu



Connect the unit directly to the television

Video signals fed through video cassette recorders will be affected by copyright protection systems and the picture will not be shown correctly on the television.



To copy from a VCR

Refer to “Copying from a video cassette recorder”.

Connecting a terminal other than the 21-pin Scart terminal.

8.5. Use of Music Port

Using the Music Port

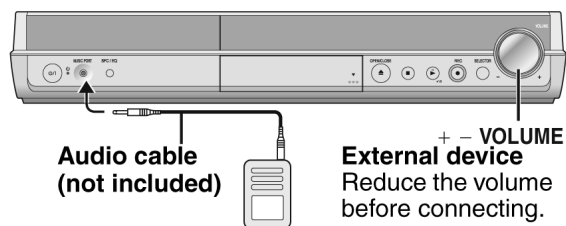
The Music Port allows you to connect and enjoy music from an external device (e.g. MP3 player) through your home theater system.

Preparation

To avoid distorted sound, make sure that any equalizer function of your external device is turned off.

1 Reduce the volume and connect the external device (not included).

Plug type: Ø3.5 mm stereo mini plug



2 Press [MUSIC P.] to select “F MUSICP”.

F MUSICP ← → AUX

3 Adjust the external device volume to a normal listening level, and then adjust the volume of this unit with [+ - VOLUME].

Note

If the audio is distorted, turn the volume down on the connected external device.

9 Operation Instructions

9.1. (DVD) Taking out the Disc from RAM-Drive Unit when the Disc cannot be ejected by OPEN/CLOSE button

9.1.1. (DVD) Forcible Disc Eject

9.1.1.1. (DVD) When the power can be turned off.

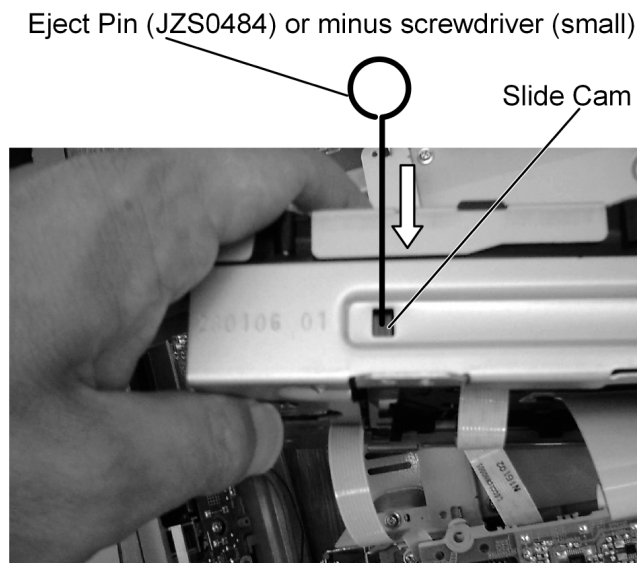
1. Turn off the power and press [STOP], [CH UP] keys on the front panel simultaneously for 5 seconds.

9.1.1.2. (DVD) When the power can not be turned off.

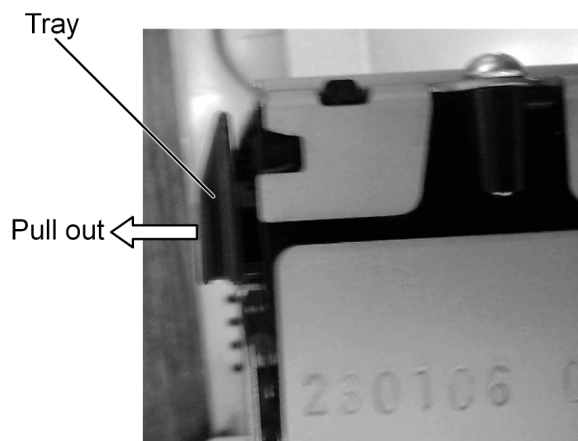
1. Press [POWER] key on the front panel for over 10 seconds to turn off the power forcibly, and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

9.1.2. (DVD) When the Forcible Disc Eject can not be done.

1. Turn off the power and pull out AC cord.
2. Remove the Top Cabinet.
3. Remove Front Panel, but front FFCs need not be removed.
4. Remove 3 Screws fixing RAM Drive.
5. Do not damage 4 drive FFCs and raise RAM Drive.
6. Hold RAM Drive and push in SLIDE CAM by Eject Pin (JZS0484) or minus screwdriver (small) to eject tray slightly.



7. Pull out Tray by hand.



10 Service Mode

10.1. (DVD) Self-Diagnosis and Special Mode Setting

10.1.1. (DVD) Self-Diagnosis Functions

Self-Diagnosis Function provides information for errors to service personnel by "Self-Diagnosis Display" when any error has occurred.

U, H** and F** are stored in memory and held.**

You can check latest error code by transmitting [0] [1] of Remote Controller in Service Mode.

Automatic Display on FL will be cancelled when the power is turned off or AC input is turned off during self-diagnosis display is ON.

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
F61	Output malfunction of Power Amp or Power Circuit malfunction	When DCDT becomes L during normal operations, PCNT is turned to L and "AF F61" is displayed.	No display	AF F61 "AF" was added for distinction from DVD side.
U30	Remote control code error	Display appears when main unit and remote controller codes are not matched.	No display	DVD * "*" is remote controller code of the main unit. Display for 5 seconds.
U59	Abnormal inner temperature detected	Display appears when the drive temperature exceeds 70°C. The power is turned off forcibly. For 30 minutes after this, all key entries are disabled. (Fan motor operates at the highest speed for the first 5 minutes. For the remaining 25 minutes, fan motor is also stopped.) The event is saved in memory as well.	No display	U59 "U59 is displayed for 30 minutes.
U61	The unit is carrying out its recovery process. (with no disc in the disc tray)	• The unit detected an error while recording or playing with no disc in the disc tray. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.	No display	U61
U88	The unit is carrying out its recovery process. (with a disc in the disc tray)	• The unit detected an error while recording or playing with a disc in the disc tray. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.	No display	U88
U99	Hang-up	Displayed when communication error has occurred between Main microprocessor and Timer microprocessor.	No display	U99 Displayed is left until the [POWER] key is pressed.
H19	Inoperative fan motor	When inoperative fan motor is detected after powered on, the power is turned off automatically. The event is saved in memory.	No display	No display
F00	No error information	Initial setting for error code in memory (Error code Initialization is possible with error code initialization and main unit initialization.)	No display	No display
F34	Initialization error when main microprocessor is started up for program recording	When initialization error is detected after starting up main microprocessor for program recording, the power is turned off automatically. The event is saved in memory.	No display	No display
F58	Drive hardware error	When drive unit error is detected, the event is saved in memory.	No display	No display
UNSUPPORT	Unsupported disc error	*An unsupported format disc was played, although the drive starts normally. *The data format is not supported, although the media type is supported. *Exceptionally in case of the disc is dirty.	"This disc is incompatible."	UNSUP ↓ PORT Display for 5 seconds.

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
NO READ	Disc read error	*A disc is flawed or dirty. *A poor quality failed to start. *The track information could not be read.	"Cannot read. Please check the disc."	NOREAD
HARD ERR	Drive error	The drive detected a hard error.	"DVD drive error."	Display for 5 seconds. HARD ↓ ERR
SELF CHECK	Restoration operation	Since the power cord fell out during a power failure or operation, it is under restoration operation. *It will OK, if a display disappears automatically. If a display does not disappear, there is the possibility that defective Digital P.C.B. / RAM drive.	No display	SELF ↓ CHECK
PLEASE WAIT	Unit is in termination process	Unit is in termination process now. "BYE" is displayed and power will be turned off. In case "Quick Start" of setup menu is ON, it is displayed in restoration operation for AC off.	No display	PLEASE ↓ WAIT
UNFORMAT	Unformatted disc error	You have inserted an unformatted DVD-RAM or DVD-RW that is unformatted or recorded on other equipment.		UNFOR ↓ MAT
IR ERR	IR communication error	[IR ERR] is displayed when communication between Timer microprocessor and IR microprocessor fails.	No display	IR ERR Display for 5 seconds.
No REC	Recording is impossible	[No REC] is displayed when recording is impossible due to the defect, dirt or wound of media.	No display	NoREC

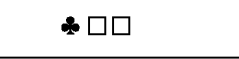
10.1.2. (DVD) Special Modes Setting

Item		FL display	Key operation
Mode name	Description		Front Key
TEST Mode	*All the main unit's parameters (include tuner) are initialized.	TM AV1	Press [CH UP], [STOP] and [OPEN/CLOSE] keys simultaneously for five seconds when power is off.
Rating password	The audiovisual level setting password is initialized to "Level 8".	INIT	Set DRIVE SELECT to [DVD]. While the tray is open, press [REC] and [PLAY] simultaneously for 5 seconds.
Service Mode	Setting every kind of modes for servicing. *Details are described in "10.1.3. (DVD) Service Modes at a glance".	SERV	When the power is off, press [REC] + [OPEN/CLOSE] and [CH UP] keys simultaneously for 5 seconds.
Forced disc eject	Removing a disc that cannot be ejected. The tray will open and unit will shift to P-off mode. *When Timer REC is ON or EXT-LINK is ON, execute " Forced disc eject " after releasing Timer REC or EXT-LINK. *This command is not effective during "Child lock" is ON. While Demonstration Lock is being set, this Forced disc eject function is not accepted. If this command was executed while TIMER REC is being set, TIMER REC setting will turn to OFF.	The display before execution leaves. *****	When the power is off, press [STOP] and [CH UP] keys simultaneously for 5 seconds.
Child lock/unlock	Set or release "Child Lock".	X HOLD	Press [ENTER] and [RETURN] by remote controller simultaneously until [X-HOLD] is displayed.

	Item	FL display	Key operation
	Mode name Description		Front Key
NTSC/PAL system select	To switch PAL/NTSC alternately.	The display before execution leaves. *****	While the power is on (E-E mode), press [STOP] and [OPEN/CLOSE] simultaneously for 5 seconds.
Forced power-off	When the power button is not effective while power is ON, turn off the power forcibly. *When Timer REC is ON, execute "Forced Power-off" after releasing Timer REC.	Display in P-off mode.	Press [POWER] key over than 10 seconds.
Aging	Perform sequence of modes as * Aging Description shown below continually. Caution: All programs in DVD-RAM disc will be deleted because Formatting is done once in Aging process.	Display following the then mode.	When the power is ON, press [CH DOWN], [REC] and [OPEN/CLOSE] simultaneously for over 5 seconds and less than 10 seconds. NOTE1: If Unit has not turned into Aging mode by operations shown above, execute TEST MODE once and re-execute operation shown above. (*All the main unit's parameters include tuner are initialized by TEST mode.) NOTE2: If the unit has hung-up because of pressing keys for over 10 seconds, once turn off the power, and re-execute this command. *When releasing Aging mode, press [POWER] key.
Aging Contents (Example):			
Format → REC → STOP → PLAY → CUE → REV → PLAY → PAUSE * ↑ ← CLOSE ← OPEN ← STOP ← PLAY ← R-SLOW ← SLOW ← *XP mode repeat twice SP mode repeat 4 times LP mode repeat 8 times EP mode repeat 12 times			
Demonstration lock/unlock	Ejection of the disc is prohibited. The lock setting is effective until unlocking the tray and not released by "Main unit initialization" of service mode.	*When lock the tray. LOCK "LOCK" is displayed for 3 seconds. *When unlock the tray. UNLOCK "UNLOCK" is displayed for 3 seconds. *When press OPEN/CLOSE key while the tray being locked. LOCK Display "LOCK" for 3 seconds.	When the power is on, press [STOP] and [POWER] keys simultaneously for 5 seconds. Note: When a disc is not in tray, this setting is not effective. When the power is on, press [STOP] and [POWER] keys simultaneously for 5 seconds. Press [OPEN/CLOSE] key while the tray being locked.
Progressive initialization	The progressive setting is initialized to Interlace.	The display before execution leaves. *****	When the power is on (E-E mode), press [STOP] and [PLAY] simultaneously for 5 seconds.
ATP re-execution	Re-execute ATP.	Display at ATP executing. *****	When the power is on (E-E mode), press [CH UP] and [CH DOWN] simultaneously for 5 seconds.

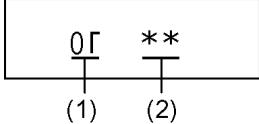
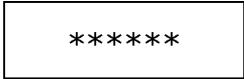
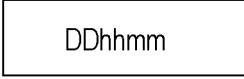
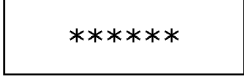
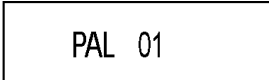
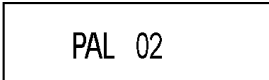
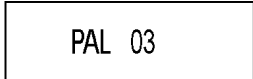
10.1.3. (DVD) Service Modes at a glance

Service mode setting: While the power is off, press [CH UP], [REC] and [OPEN / CLOSE] simultaneously for five seconds (OPERATION SELECT should be set to DVD).

Item		FL display	Key operation (Remote controller key)
Mode name	Description		
Release Items	Item of Service Mode executing is cancelled.	SERV	Press [0] [0] or [Return] in service mode.
Error Code Display	Last Error Code of U/H/F held by Timer is displayed on FL. *Details are described in "10.1.1. (DVD) Self-Diagnosis Functions".	 *♣ shows U/H/F. □□ shows number. If any error history dose not exist, [F00] is displayed.	Press [0] [1] in service mode
ROM Version Display	1. Region code (displayed for 5 sec.) 2. Main firm version (displayed for 5 sec.) 3. Timer firm version (displayed for 5 sec.) 4. Drive firm version (displayed for 5 sec.) 5. ROM correction version (displayed for 5 sec.) 6. AF (System Control) Microprocessor version (displayed for 5 sec.) 7. AF (System Control) ROM correction version (left displayed)	1. NO * 2. ***** 3. ***** 4. ***** 5. *** 6. **** A 7. **** C "" are version displays.	Press [0] [2] in service mode
White Picture Output	White picture is output as component Output from AV Decoder. *White picture (Saturation rate : 100%) *It is enable to switch Interlace/Progressive by "I/P switch: [1] [4]"	*Initial mode is "Interlace". WHIT I	Press [1] [1] in service mode.
		Switch Interlace/Progressive WHIT	Press [1] [4] in White Picture Output mode. *I/P are switched alternately.
Magenta Picture Output	Magenta picture is output with Component Output from AV Decoder. *Magenta picture (Saturation rate: 100%) *It is enable to switch Interlace/Progressive by "I/P switch: [1] [4]"	*Initial mode is "Interlace". MAGE I	Press [1] [2] in service mode.
		Switch Interlace/Progressive MAGE	Press [1] [4] in Magenta Picture Output mode. *I/P are switched alternately.
RTSC Return in XP (A & V)	L1 input signal is encoded (XP), decoded (XP) and output decoded signal to external without DISC recording and DISC playback.	Initial mode: EE2/ Interlace/ XP/ Audio 48kHz EE2	Press [1] [3] in service mode.
		Switch Interlace/Progressive EE2P48	Press [1] [4] in RTSC Return XP mode. *I/P are switched alternately.
		Audio 44.1 kHz/ 48 kHz Switch EE2P44	Press [2] [4] in RTSC Return XP mode. *48 kHz / 44.1 kHz are switched alternately.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
I/P Switch	Switch Interlace and Progressive in EE mode. *Initial setting is "Interlace". *This command is effective during executing "White Picture Output", "Magenta Picture Output" and "RTSC Return in XP (A & V)" modes.	Initial mode is Interlace SERV P Switch Interlace/Progressive SERV I	Press [1] [4] in I/P Switch mode. *I/P are switched alternately.
Audio Mute (XTMUTE)	Check whether mute is applied normally by the timer microprocessor.	T MUTE	Press [2] [1] in service mode.
Audio Mute (XDMUTE)	Check whether mute is applied normally by the Digital P.C.B..	D MUTE	Press [2] [2] in service mode.
Audio Pattern Output	The audio pattern stored in the internal memory is output (Lch: 1kHz/-18dB) (Rch: 400Hz/-18dB) *Audio sound clock switching operation of DAC can be confirmed by sub command [2] [4].	Initial mode (Audio 48kHz) AU 48	Press [2] [3] in service mode.
		Audio 44.1kHz/48kHz switching AU 44	Press [2] [4] in Audio Pattern Output mode. *48 kHz / 44.1 kHz are switched alternately.
Laser Used Time Indiction	Check laser used time (hours) of drive.	***** I(*****) is the used time display in hour. ILaser used time of DVD/ CD in Playback/Recording mode is counted.	Press [4] [1] in service mode.
Delete the Laser Used Time	Laser used time stored in the memory of the unit is deleted.	CLR	Press [9] [5] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
RAM Drive Last Error	RAM Drive error code display. *For details about the drive error code, refer to the Service Manual for the specific RAM Drive.	1. Error Number is displayed for 5 seconds. NO ** 2. Time when the error has occurred is displayed for 5 seconds. DDhhmm DD: Day hh: Hour mm: Minute 3. Last Drive Error (1/2) is displayed for 5 seconds. ***** 4. Last Drive Error (2/2) is displayed for 5 seconds. ***** 5. Error occurring Disc type is displayed for 5 seconds. ***** 6. Disc Maker ID is displayed for 5 seconds. ***** 7. Factor of Drive Error occurring is left displayed *****	Press [4] [2] in service mode. When "INFO*****" is being displayed, past 19 error histories can be displayed by pressing [0] [1] - [1] [9]

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Front connection inspection	Press all front keys and check the connection between Main P.C.B. and Front key Switches.	 (1) Each time a key is pressed, segment turned on increases one by one. (2) Total number of keys that have been pressed.	Press [5] [4] in service mode.
Production Date Display	Display the date when the unit was produced.	 YY: Year MM: Month DD: Day	Press [6] [1] in service mode.
Display the accumulated working time	Display the accumulated unit's working time.	 (Indicating unit: Second)	Press [6] [4] in service mode.
Display the Error History	Display the Error History stored on the unit.	Display reason of error for 5 seconds.  01: Defect of Digital P.C.B. (AV DEC / MAIN CPU) 02: Defect of RAM Drive. 03: Defect of Disc. 04: Defect of Digital P.C.B. or Communication Error. 05: Defect of Digital P.C.B. (AV DEC / MAIN CPU) Display the time when the error has occurred for 5 seconds.  DD: Day hh: Hour mm: Minute Accumulated working time till occurring of the error is left displayed.  (Indicating unit: Second)	Press [6] [5] in service mode. Then press [0] [1] ~ [1] [9], the past 19 error histories are displayed.
Delete the Error History	Delete Error History information stored on the unit.		Press [9] [7] in service mode.
AV4(V)/AV1(RGB) I/O Setting	Set input to AV4 (V) and set output to AV1 (RGB) for I/O checking		Press [8] [0] in service mode.
AV2(Y/C)/AV1(V) I/O Setting	Set input to AV2 (Y/C) and set output to AV1 (V) for I/O checking		Press [8] [1] in service mode.
AV2(V)/AV1(Y/C) I/O Setting	Set input to AV2 (V) and set output to AV1 (Y/C) for I/O checking		Press [8] [2] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
AV2(RGB)/AV1(V) I/OSetting	Set input to AV2 (RGB) and set output to AV1 (V) for I/O checking	PAL 04	Press [8] [3] in service mode.
P50(H) Output	Timer Microprocessor IC7501-76 output High signal for AV1-pin 10 passing through inverter (approx. 0V DC at AV1-pin 10).	When OK. P50HOK When NG. P50HNG	Press [8] [4] in service mode.
P50(L) Output	Timer Microprocessor IC7501-76 output Low signal for AV1-pin 10 passing through inverter (approx. 4.4V DC at AV1-pin 10).	When OK. P50LOK When NG. P50LNG	Press [8] [5] in service mode.
Tray OPEN/CLOSE Test	The RAM drive tray is opened and closed repeatedly.	***** ** is number of open/close cycle times.	Press [9] [1] in service mode *When releasing this mode, press the [POWER] button of Remote Controller more than 10 seconds.
Error code initialization	Initialization of the last error code held by timer (Write in F00)	CLR	Press [9] [8] in service mode.
Initialize Service	Last Drive Error, Error history and Error Codes stored on the unit are initialized to factory setting.	CLR	Press [9] [9] in service mode.
Finishing service mode	Release Service Mode.	Display in STOP (E-E) mode. *****	Press power button on the front panel or Remote controller in service mode.

11 Assembling and Disassembling

11.1. Caution

“ATTENTION SERVICER”

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.
Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

Warning:

This product uses a laser diode. Refer to “Precaution of Laser Diode”.

ACHTUNG:

Die Lasereinheit nicht zerlegen.

Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.

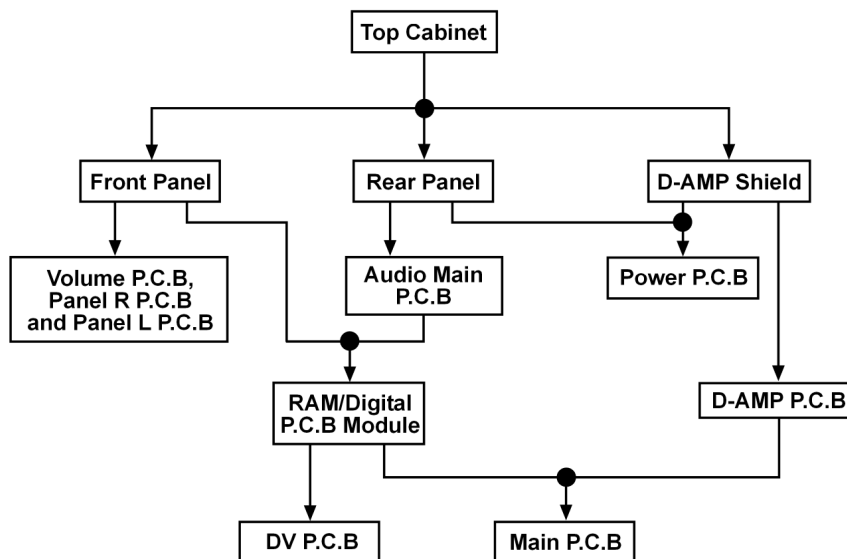
Below is the list of disassembly sections

- Disassembly of Top Cabinet
- Disassembly of Front Panel
- Disassembly of Volume P.C.B, Panel R P.C.B and Panel L P.C.B
- Disassembly of Rear Panel
- Disassembly of Audio Main P.C.B
- Disassembly of D-AMP Shield
- Disassembly of Power P.C.B
- Disassembly of RAM/Digital P.C.B. Module
- Disassembly of DV P.C.B
- Disassembly of D-AMP P.C.B
- Disassembly of Main P.C.B

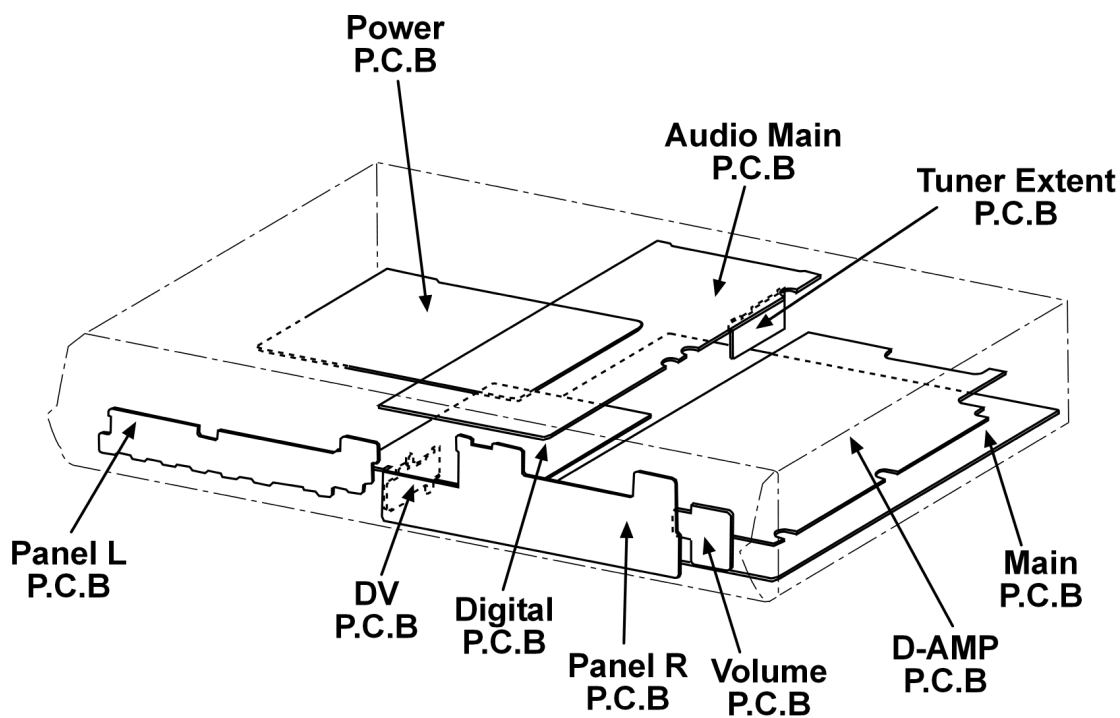
11.2. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

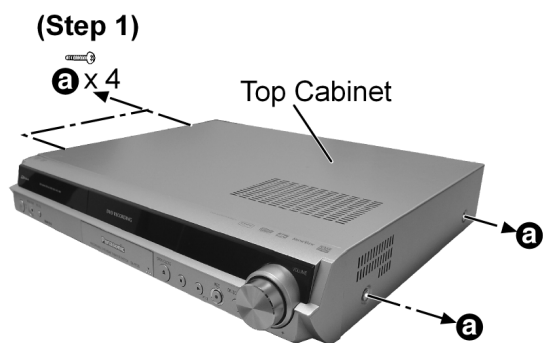
To assemble the unit, reverse the steps shown in the chart below.



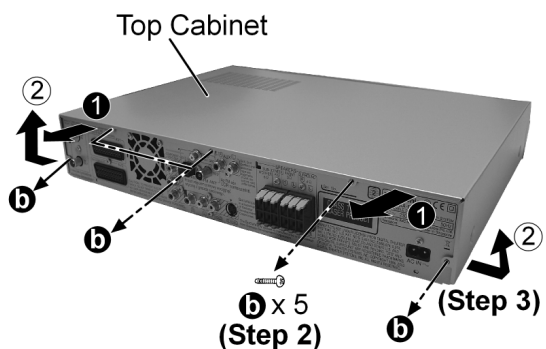
11.3. Main Parts Location Diagram



11.4. Disassembly of Top Cabinet



Step 1: Remove 4 screws. (on the both side)

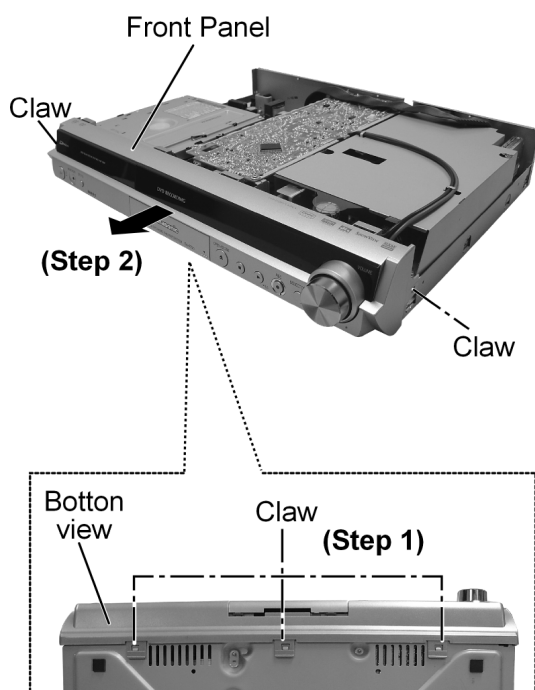


Step 2: Remove 5 screws. (at rear)

Step 3: Lift up the top cabinet as arrow shown.

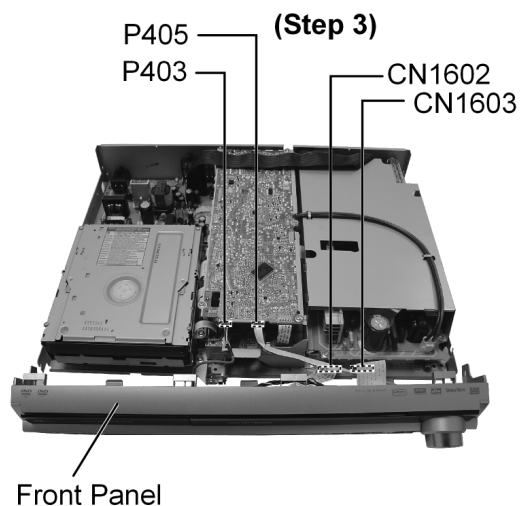
11.5. Disassembly of Front Panel

• Follow the (Step 1) - (Step 3) of Item 11.4.



Step 1: Release 5 claws.

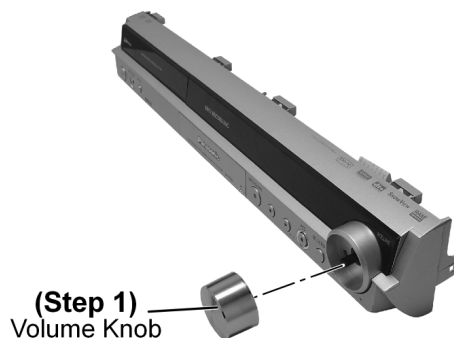
Step 2: Remove front panel as arrow shown.



Step 3: Detach the connectors (P403, P405, CN1602 and CN1603).

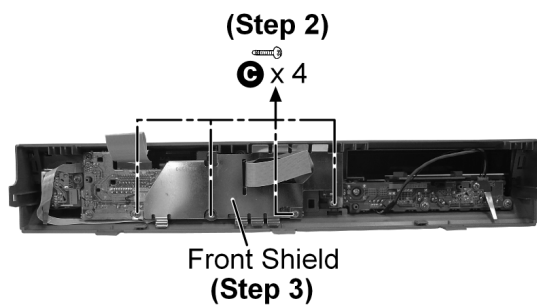
11.6. Disassembly of Volume P.C.B, Panel R P.C.B and Panel L P.C.B

- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) - (Step 3) of Item 11.5.



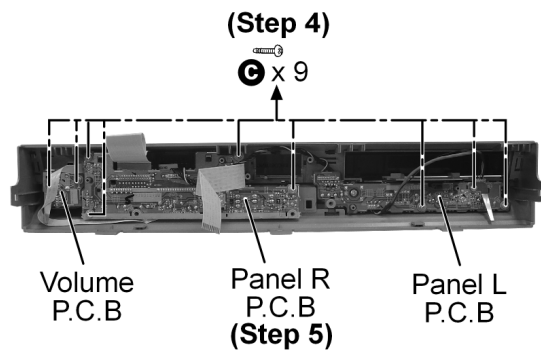
Step 1: Remove the volume knob.

• Disassembly of Front Shield



Step 2: Remove 4 screws.

Step 3: Remove the front shield.

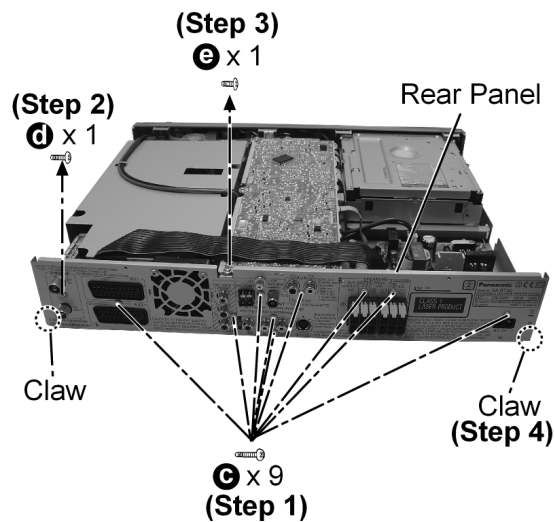


Step 4: Remove 9 screws.

Step 5: Remove the Volume P.C.B, Panel R P.C.B and Panel L P.C.B

11.7. Disassembly of Rear Panel

- Follow the (Step 1) - (Step 3) of Item 11.4.

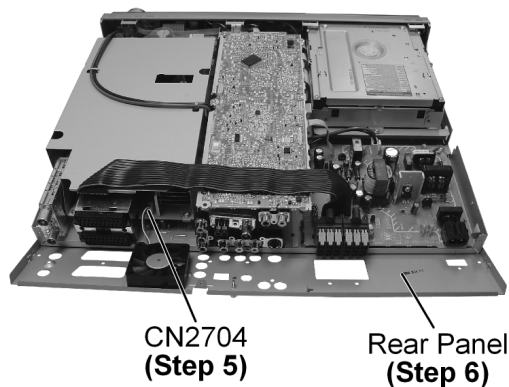


Step 1: Remove 9 screws.

Step 2: Remove 1 screw. (Tuner Pack)

Step 3: Remove 1 screw. (Audio Main P.C.B)

Step 4: Release 2 claws.

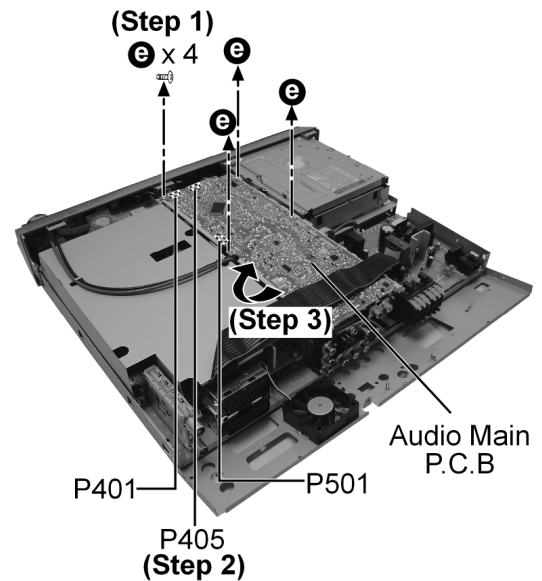


Step 5: Detach the fan connector (CN2704).

Step 6: Remove rear panel.

11.8. Disassembly of Audio Main P.C.B

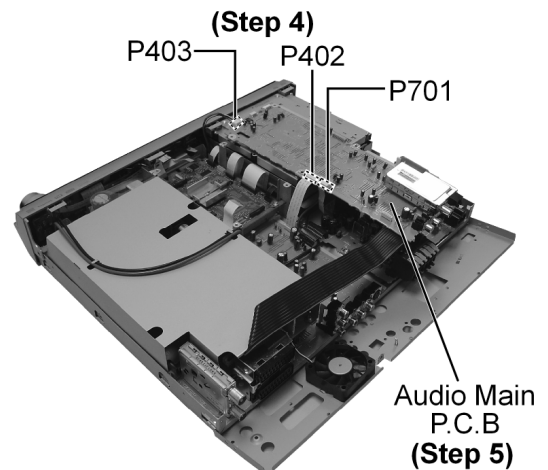
- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) - (Step 4) of Item 11.7.



Step 1: Remove 4 screws.

Step 2: Detach the connectors (P401, P405 and P501).

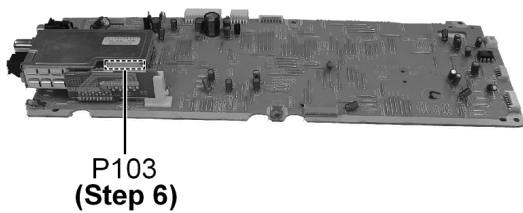
Step 3: Flip over Audio Main P.C.B.



Step 4: Detach the connectors (P403, P402 and P701).

Step 5: Remove Audio Main P.C.B.

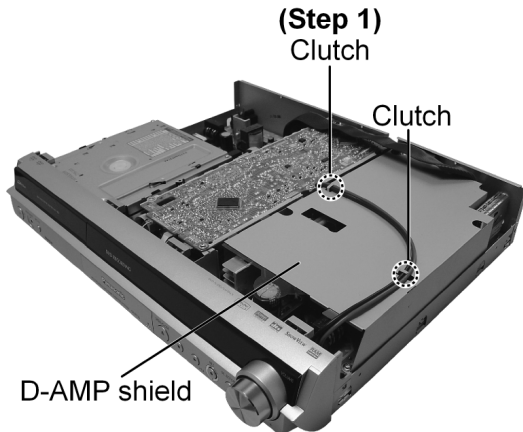
- Disassembly of Tuner Pack (Tuner Extent P.C.B)



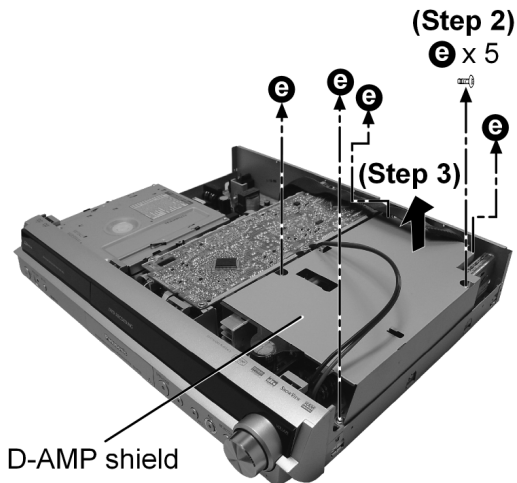
Step 5: Detach the connector (P103).

11.9. Disassembly of D-AMP Shield

• Follow the (Step 1) - (Step 3) of Item 11.4.



Step 1: Release the 2 clutch.

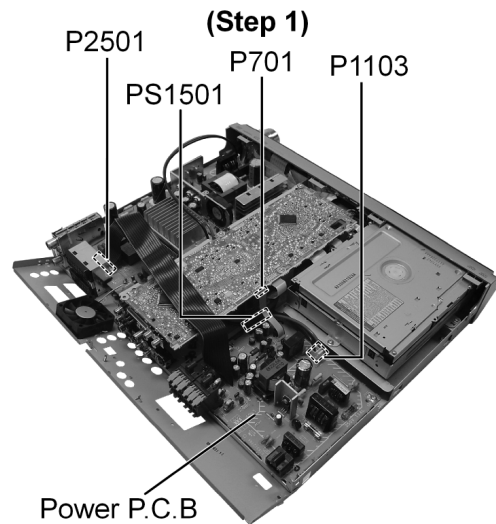


Step 2: Remove 5 screws.

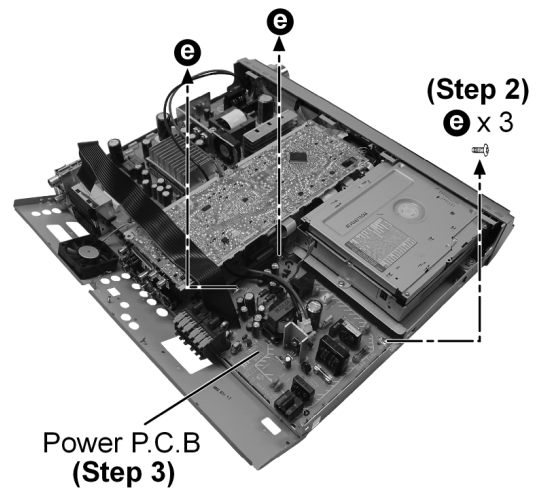
Step 3: Remove D-AMP shield as arrow shown.

11.10. Disassembly of Power P.C.B

- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) - (Step 4) of Item 11.7.
- Follow the (Step 1) - (Step 3) of Item 11.9.



Step 1: Detach the connectors (P2501, PS1501, P701 and P1103).



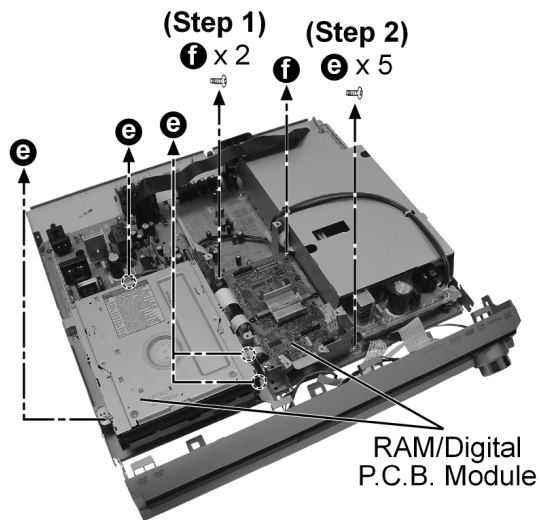
Step 2: Remove 3 screws.

Step 3: Remove the Power P.C.B

11.11. Disassembly of RAM/Digital P.C.B. Module

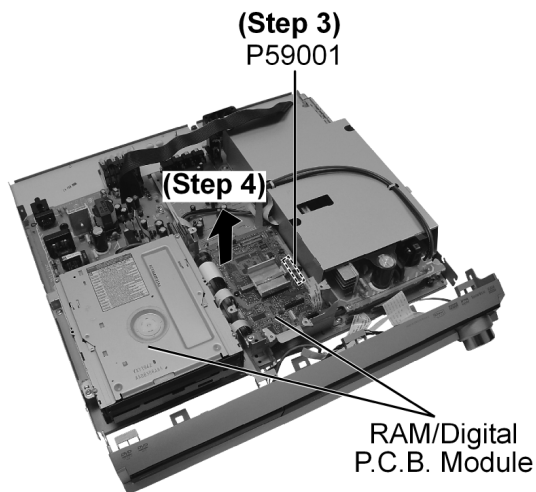
Caution:
Pairing of RAM Drive and Digital P.C.B as “RAM/Digital P.C.B Module” have to be replaced together. If the pairing is changed, RAM Drive unit has to be re-aligned. Because the alignment data for RAM Drive unit is stored in Digital P.C.B

- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) of Item 11.5.
- Follow the (Step 1) - (Step 4) of Item 11.7.
- Follow the (Step 1) - (Step 5) of Item 11.8.



Step 1: Remove 2 screws.

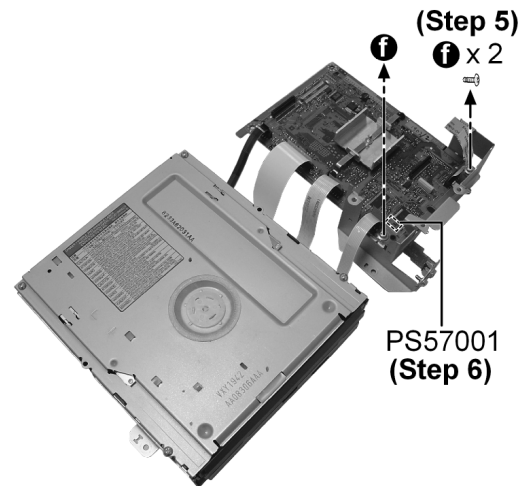
Step 2: Remove 5 screws.



Step 3: Detach the connector (P59001).

Step 4: Remove the RAM/Digital P.C.B. Module as arrow shown.

Note: Pairing of RAM Drive & Digital P.C.B as 'RAM/ Digital P.C.B Module' have to be replaced together.

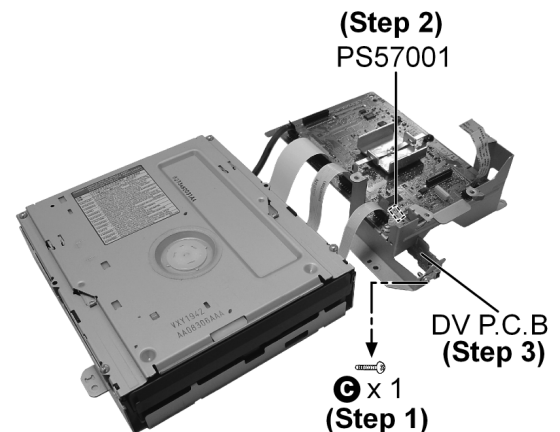


Step 5: Remove 2 screws.

Step 6: Detach the connector (PS57001).

11.12. Disassembly of DV P.C.B

- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) of Item 11.5.
- Follow the (Step 1) - (Step 4) of Item 11.7.
- Follow the (Step 1) - (Step 5) of Item 11.8.
- Follow the (Step 1) - (Step 4) of Item 11.11.



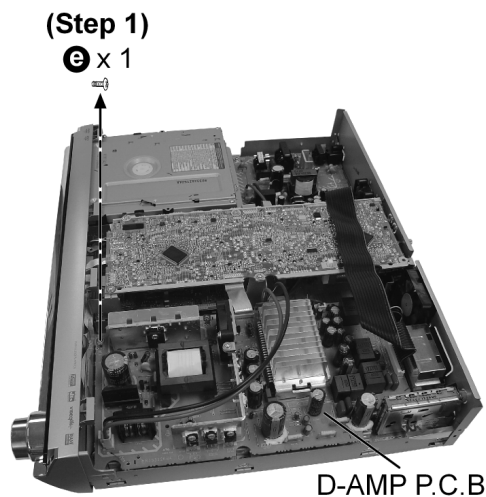
Step 1: Remove 1 screw.

Step 2: Detach the connector (PS57001).

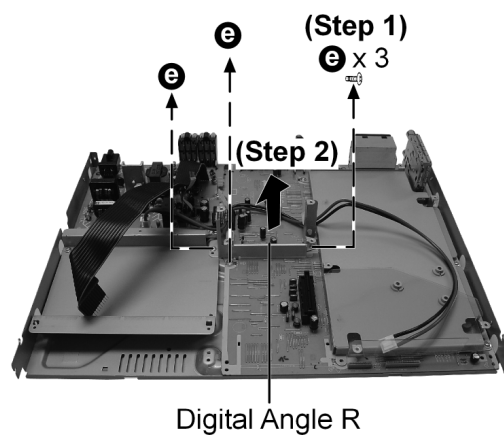
Step 3: Remove the DV P.C.B

11.13. Disassembly of D-AMP P.C.B

- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) - (Step 3) of Item 11.9.

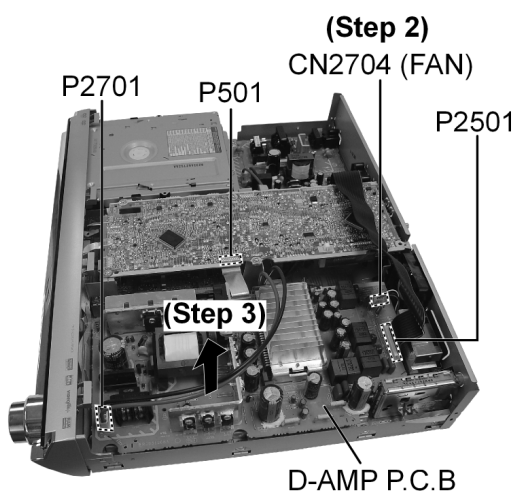


Step 1: Remove 1 screw.



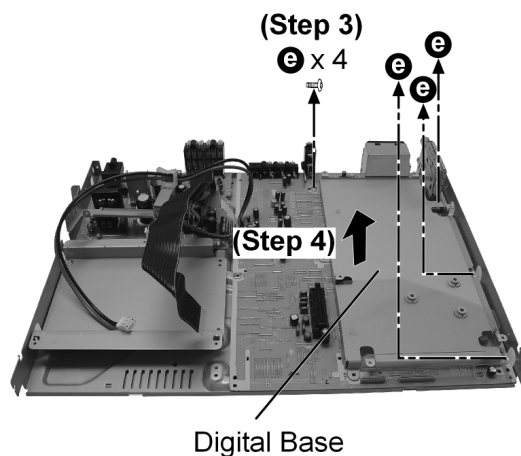
Step 1: Remove 3 screws.

Step 2: Remove digital angle R as arrow shown.



Step 2: Detach the connectors (P2701, P501, CN2704 and P2501).

Step 3: Remove D-AMP P.C.B as arrow shown.

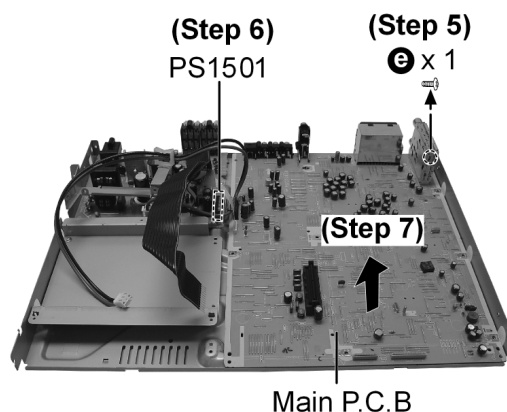


Step 3: Remove 4 screws.

Step 4: Remove digital base as arrow shown.

11.14. Disassembly of Main P.C.B

- Follow the (Step 1) - (Step 3) of Item 11.4.
- Follow the (Step 1) - (Step 3) of Item 11.5.
- Follow the (Step 1) - (Step 6) of Item 11.7.
- Follow the (Step 1) - (Step 5) of Item 11.8.
- Follow the (Step 1) - (Step 3) of Item 11.9.
- Follow the (Step 1) - (Step 4) of Item 11.11.
- Follow the (Step 1) - (Step 3) of Item 11.13.



Step 5: Remove 1 screw.

Step 6: Detach the connector (PS1501).

Step 7: Remove Main P.C.B as arrow shown.

12 Service Fixture & Tools

Part Number	Description	Compatibility
RFKZ0168	Extension Cable (D-AMP P.C.B. - FAN / 3 Pin)	Same as E50 / ES30V / ES40V Series
RFKZ0240	Extension Cable (Main P.C.B. - Power P.C.B. / 19 Pin / 40 mm)	Same as ES75V / ES30V / ES40V Series
RFKZ0365	Extension Cable (Main P.C.B. - RAM / Digital P.C.B. Module / 64 Pin)	Same as ES15 Series
REZ1802	Extension FFC Cable (Audio Main P.C.B. - RAM / Digital P.C.B. Module / 11 Pin / 300 mm)	Same as RT50 / RT30 Series
REZ1804	Extension FFC Cable (Audio Main P.C.B. - Main P.C.B. / 13 Pin / 450 mm)	Same as RT50 / RT30 Series
JZS0484	Eject Pin	Same as ES15 / E50 Series
RFKZ03D01K	Lead Free Solder (0.3mm/100g Reel)	Same as ES15 Series
RFKZ06D01K	Lead Free Solder (0.6mm/100g Reel)	Same as ES15 Series
RFKZ10D01	Lead Free Solder (1.0mm/100g Reel)	Same as ES15 Series
RFKZ0316	Solder Remover (Lead free 10W temperature Solder/180g)	Same as ES15 Series
RFKZ0328	Flux	Same as ES15 Series
RFKZ0329	Bottle of Flux	Same as ES15 Series

13 Measurements and Adjustments

13.1. Service Positions

Note:

For description of the disassembling procedure, see the section 11.

13.1.1. Checking and Repairing of Audio Main P.C.B

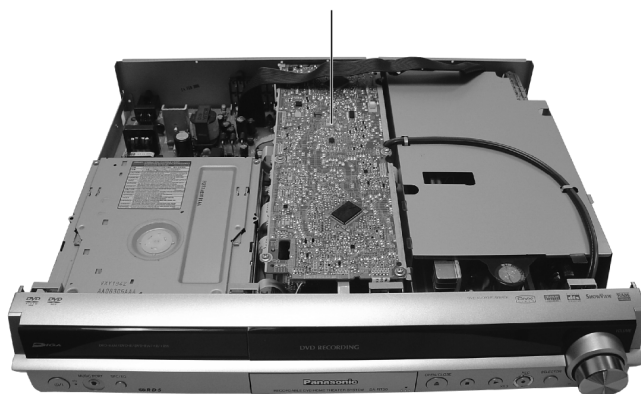
1. Remove Top Cabinet

Remove 4 screws on L/R side

Remove 5 screws on rear side

Remove top cabinet

Audio Main P.C.B



13.1.2. Checking and Repairing of Volume, Panel R and Panel L P.C.B

1. Remove Top Cabinet

Remove 4 screws on L/R side

Remove 5 screws on rear side

Remove top cabinet

2. Disassemble Front Panel

Release 5 claws

Disconnect P403, P405, CN1602 and CN1603

Remove front panel

3. Disassemble Volume, Panel R and Panel L P.C.B

Remove volume knob

Remove 13 screws

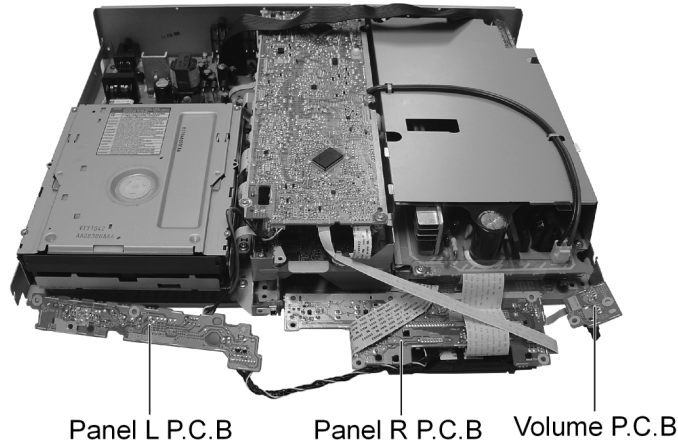
4. Connect Volume, Panel R and Panel L P.C.B

Connect 4P P7552 to P403

Connect 7P FFC cable P7501 to P405

Connect 18P FFC cable CN1602 to CN1602

Connect 28P FFC cable CN1603 to CN1603



13.1.3. Checking and Repairing of D-AMP P.C.B

1. Remove Top Cabinet

Remove 4 screws on L/R side

Remove 5 screws on rear side

Remove top cabinet



2. Remove D-AMP Shield

Release 2 clutch

Remove 5 screws

Remove D-AMP Shield

3. Disassemble D-AMP P.C.B

Remove 1 screw

Disconnect CN2704 (FAN)

Flip D-AMP P.C.B sideways



4. Disassemble Rear Panel

Remove 11 screw on rear panel

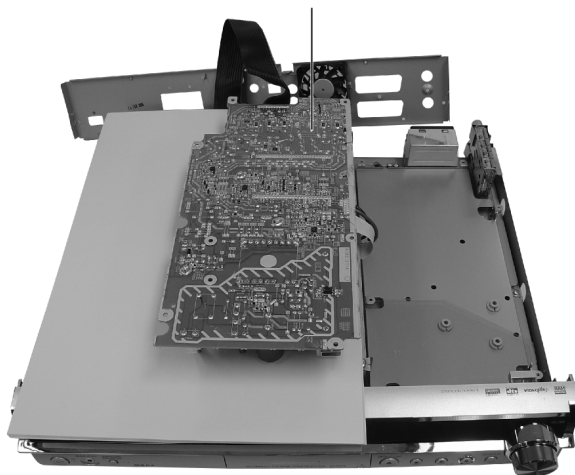
Release 2 claws



5. Connect D-AMP P.C.B

Connect 3P Cable FAN to CN2704

D-AMP P.C.B



13.1.4. Checking and Repairing of DV P.C.B

1. Remove Top Cabinet

Remove 4 screws on L/R side

Remove 5 screws on rear side

Remove top cabinet



2. Disassemble Front Panel

Release 5 claws

Disconnect P403, P405, CN1602 and CN1603

Remove front panel

3. Disassemble Volume, Panel R and Panel L P.C.B

Remove volume knob

Remove 13 screws



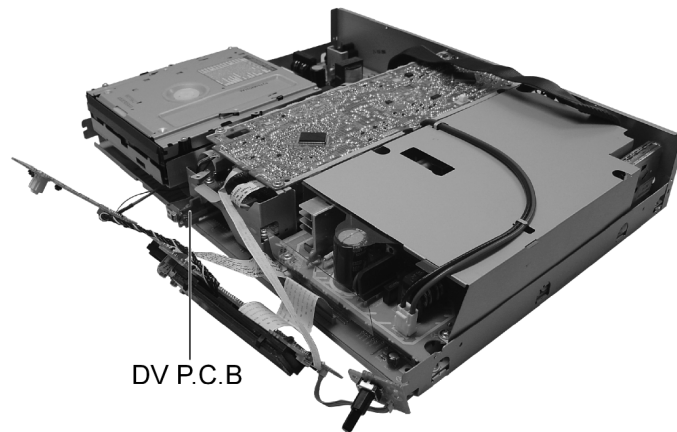
4. Connect Volume, Panel R and Panel L P.C.B

Connect 4P P7552 to P403

Connect 7P FFC cable P7501 to P405

Connect 18P FFC cable CN1602 to CN1602

Connect 28P FFC cable CN1603 to CN1603



13.1.5. Checking and Repairing of Power P.C.B

1. Remove Top Cabinet

Remove 4 screws on L/R side

Remove 5 screws on rear side

Remove top cabinet



2. Disassemble Rear Panel

Remove 11 screw on rear panel

Release 2 claws

3. Disassemble Power P.C.B

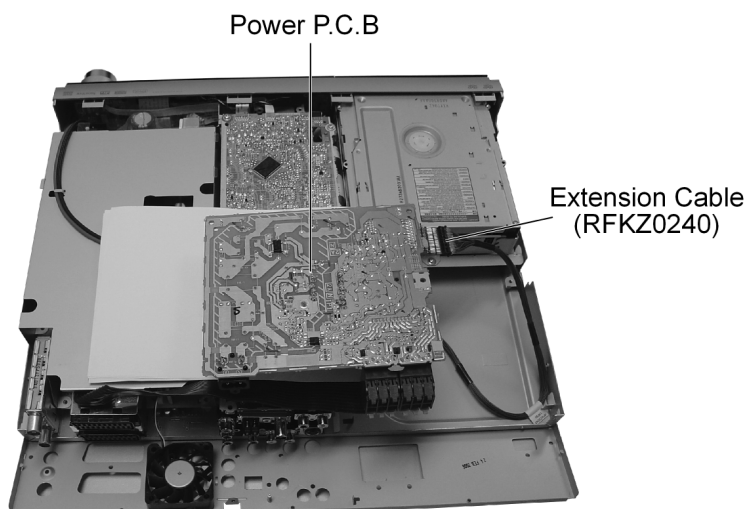
Disconnect PS1051

Remove 3 screws



4. Connect Power P.C.B

Connect 19P Extension Cable (RFKZ0240) PS1503 to PS1501



13.1.6. Checking and Repairing of Main P.C.B

1. Remove Top Cabinet

- Remove 4 screws on L/R side
- Remove 5 screws on rear side
- Remove top cabinet



2. Disassemble Front Panel

- Release 5 claws
- Disconnect P403, P405, CN1602 and CN1603
- Remove front panel



3. Disassemble Volume, Panel R and Panel L P.C.B

- Remove volume knob
- Remove 13 screws
- Remove Volume, Panel R and Panel L P.C.B



4. Disassemble Rear Panel

- Remove 11 screws on rear panel
- Release 2 claws



5. Disassemble Audio Main P.C.B

- Remove 4 screws
- Disconnect P401, P501, P402 and P701
- Remove Audio Main P.C.B



6. Remove D-AMP Shield

- Release 2 clutch
- Remove 5 screws
- Remove D-AMP Shield

7. Disassemble RAM/Digital P.C.B Module

- Remove 7 screws
- Disconnect P59001
- Remove RAM/Digital P.C.B Module



8. Disassemble D-AMP P.C.B

- Remove 1 screw
- Remove D-AMP P.C.B to sideways



9. Disassemble Main P.C.B

- Remove 3 screws
- Remove Digital Angle R
- Remove 4 screws
- Remove Digital Base
- Remove 1 screw
- Disconnect PS1501
- Remove Main P.C.B



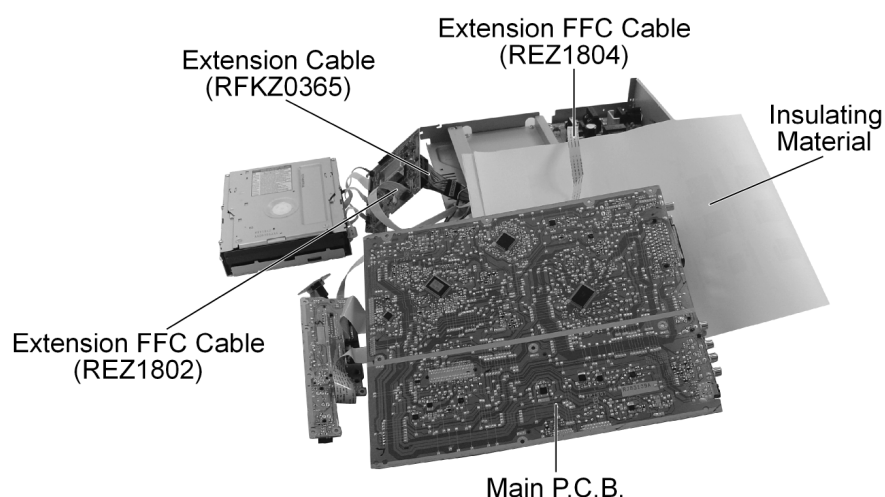
10. Connect all connector

Main P.C.B:
Connect 19P Extension Cable (RFKZ0240) PS1503 to PS1501

RAM/Digital P.C.B Module:
Connect 64P Extension Cable (RFKZ0365) P7401 to P59001

Audio Main P.C.B:
Connect 5P cable JW1501 to P701
Connect 11P Extension FFC Cable (REZ1802) P54501 to P401
Connect 16P FFC cable CN2501 to P501
Connect 13P Extension FFC Cable (REZ1804) CN1601 to P402

Volume, Panel R and Panel L P.C.B:
Connect 4P cable P7552 to P403
Connect 7P FFC cable P7501 to P405
Connect 18P FFC cable CN1602 to CN1602
Connect 28P FFC cable CN1603 to CN1603



13.1.7. Checking and Repairing of Digital P.C.B (Side A)

Caution:
Pairing of RAM Drive and Digital P.C.B as
“RAM/Digital P.C.B Module” have to be replaced
together. If the pairing is changed, RAM Drive unit
has to be re-aligned. Because the alignment data
for RAM Drive unit is stored in Digital P.C.B

1. Remove Top Cabinet

Remove 4 screws on L/R side

Remove 5 screws on rear side

Remove top cabinet



2. Disassemble Front Panel

Release 5 claws

Disconnect P403 and P405



3. Disassemble Rear Panel

Remove 11 screws on rear panel

Release 2 claws



4. Disassemble Audio Main P.C.B

Remove 4 screws

Disconnect P401, P501, P402 and P701

Remove Audio Main P.C.B sideways



5. Disassemble RAM/Digital P.C.B Module

Remove 7 screws

Disconnect P59001

Remove RAM/Digital P.C.B Module

Remove 2 screws

Disconnect PS57001



6. Disassemble DV P.C.B

Remove 1 screw



7. Connect all connector

RAM/Digital P.C.B Module:

Connect 6P P7521 to PS57001

Connect 64P Extension Cable (RFKZ0365) P7401 to P59001

Audio Main P.C.B:

Connect 11P Extension FFC Cable (REZ1802) P54501 to P401

Connect 5P cable JW1501 to P701

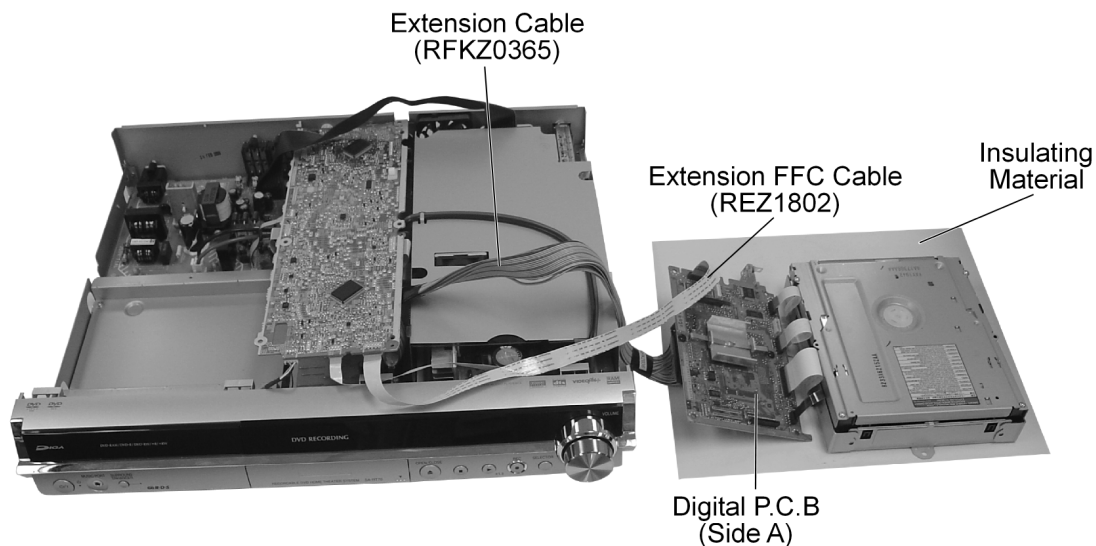
Connect 16P FFC Cable CN2501 to P501

Connect 13P FFC Cable CN1601 to P402

Front Panel:

Connect 4P cable P7552 to P403

Connect 7P FFC cable P7501 to P405



13.1.8. Checking and Repairing of Digital P.C.B (Side B)

Caution:
Pairing of RAM Drive and Digital P.C.B as
"RAM/Digital P.C.B Module" have to be replaced
together. If the pairing is changed, RAM Drive unit
has to be re-aligned. Because the alignment data
for RAM Drive unit is stored in Digital P.C.B

1. Remove Top Cabinet

- Remove 4 screws on L/R side
- Remove 5 screws on rear side
- Remove top cabinet

2. Disassemble Front Panel

- Release 5 claws
- Disconnect P403 and P405

3. Disassemble Rear Panel

- Remove 11 screws on rear panel
- Release 2 claws

4. Disassemble Audio Main P.C.B

- Remove 4 screws
- Disconnect P401, P501, P402 and P701
- Remove Audio Main P.C.B sideways

5. Disassemble RAM/Digital P.C.B Module

- Remove 7 screws
- Disconnect P59001
- Remove RAM/Digital P.C.B Module
- Remove 2 screws
- Disconnect PS57001

6. Disassemble DV P.C.B

- Remove 1 screw

7. Connect all connector

RAM/Digital P.C.B Module:

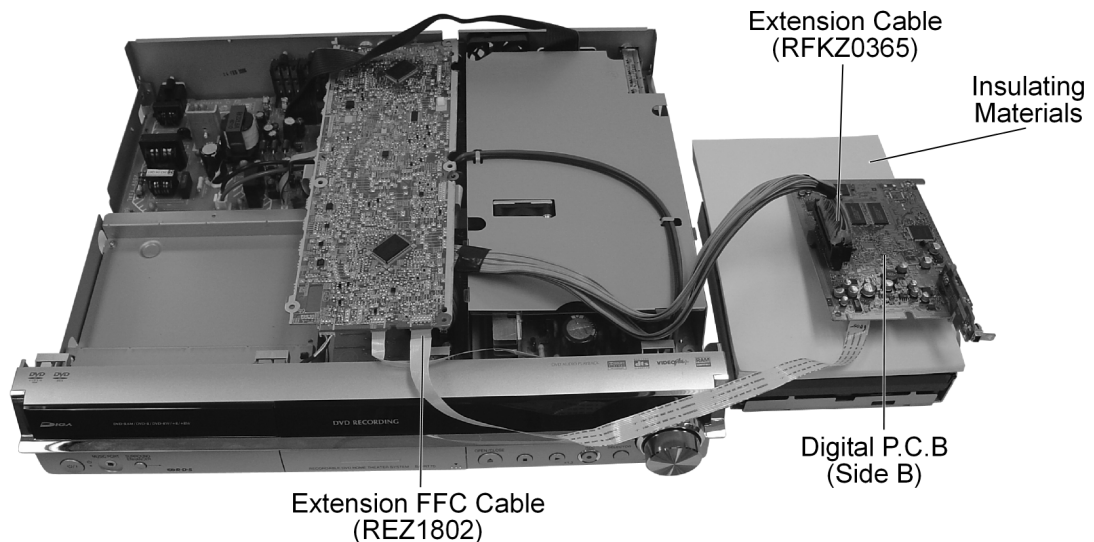
- Connect 6P P7521 to PS57001
- Connect 64P Extension Cable (RFKZ0365) P7401 to P59001

Audio Main P.C.B:

- Connect 11P Extension FFC Cable (REZ1802) P54501 to P401
- Connect 5P cable JW1501 to P701
- Connect 16P FFC Cable CN2501 to P501
- Connect 13P FFC Cable CN1601 to P402

Front Panel:

- Connect 4P cable P7552 to P403
- Connect 7P FFC cable P7501 to P405



13.2. Caution for Replacing Parts

13.2.1. Notice after replacing RAM/Digital P.C.B Module

After replacing RAM/Digital P.C.B. Module, [TM AV1] is displayed on FL. Once power off, and power on again.

13.2.2. Items that should be done after replacing parts (Except EB)

√: Necessary —: Unnecessary

Replacing Parts \ Items that Should be done	Obtain and register a new registration code. (*Note1)
Main P.C.B.	√
IC7404 (EEPROM)	√

***Note1:**

Please will always pass the customer “Warning for Customers Who Use the DivX Video-on-Demand content.” with the product and get it when you unavoidably exchange EEPROM or P.C.B. including EEPROM (When the product is exchanged, it is the same.).

You must use print attached to service part (EEPROM or P.C.B. including EEPROM) or must use copy of print below as “Warning for Customers who use the DivX Video-on-Demand content.”

Information needed without fail for the customer for whom it is used continuing DivX Video-on-Demand Service to “Manual for the customer” is recorded.

Appendix:

- * Parts that memorize user's information are only EEPROM.
- * The registration of Registration Code is possible for half a year up to 6 recorders up to 10 recorders a year.
Replacement of EEPROM or P.C.B. including EEPROM spends one of this.

Registration Code is memorized in EEPROM (RFKxxxxxx).

Model without VHS: on Main P.C.B.

Model with VHS: on Digital I/F P.C.B. (Power & DVD I/F/P.C.B.)

If exchange above P.C.B. or EEPROM, new registration Code differ from previous Registration Code will be generated.

In this case if your customer uses DivX Video-on-Demand service, he/she will no longer be able to play any content that he/she purchased under that same registration code.

Therefore your customer will need to obtain and register the new registration code.

*Copy this page, cut on the dotted line and give the lower half to your customer.

Warning for Customers who use the DivX Video-on-Demand content.

1. The registration code has been changed for the repair of the product or the product exchange.
2. Obtain and register a new registration code, otherwise you will no longer be able to play DivX Video-on-Demand content.
3. Follow the procedure on the DivX Video-on-Demand web site to register at

<http://vod.divx.com/>

* If you do not use the DivX Video-on-Demand content, please ignore this warning.

13.3. Standard Inspection Specifications after Making Repairs

After making repairs, we recommend performing the following inspection, to check normal operation.

No.	Procedure	Item to Check																														
1	Turn on the power, and confirm items pointed out.	Items pointed out should reappear.																														
2	Insert RAM disc.	The Panasonic RAM disc should be recognized.																														
3	Enter the EE (TU IN / AV IN - AV OUT) mode.	No abnormality should be seen in the picture, sound or operation.																														
4	Perform auto recording and playback for one minute using the RAM disc.	No abnormality should be seen in the picture, sound or operation. *Panasonic DVD-RAM disc should be used when recording and playback.																														
5	If a problem is caused by a VCD, DVD-R, DVD-Video, Audio-CD, or MP3, playback the test disc.	No abnormality should be seen in the picture, sound or operation.																														
6	Models with DV Input Jack: In case of that the trouble is caused by DV terminal.	Models with DV Input Jack; 1) DV terminal: Check to be able to record from DVC.																														
7	After checking and making repairs, upgrade the firmware to the latest version.	Make sure that [UPDOK] appears in the FL display.																														
Caution for updating Firmware. Firmware of this model is compulsively changed even if new version has already been installed in product. UNFORMAT in not displayed. Please confirm firm version of the product before update, to avoid making down version. step1. Confirm firm version of the product. a). Press [CH UP] + [REC] + [OPEN / CLOSE] buttons of product simultaneously for 5 seconds to turn it in Service mode. b). Press [0] [2] of the remote controller. Region code/ MAIN firm version/ TIMER firm version/ DRIVE firmware version/ ROM Correction version is displayed in this order. step 2. Compare Main firm version and Drive firm version of FL display with versions of updating disc. For Example: <table><thead><tr><th colspan="2">Versions of updating disc</th><th colspan="2">Versions of FL display</th><th rowspan="2">Judgment of updating disc</th><th rowspan="2">Descriptions</th></tr><tr><th>Main firm</th><th>Drive firm</th><th>Main firm</th><th>Drive firm</th></tr></thead><tbody><tr><td>3090U5</td><td>S126</td><td>3090U5</td><td>S155</td><td rowspan="2">NG</td><td rowspan="2">If this updating disc was used, the product will be made down version. 1. Download latest firmware from TSN System and burn it to CD-R or CD-RW. 2. Update product with this download latest firmware.</td></tr><tr><td>3010C5</td><td>S155</td><td>3040C5</td><td>S155</td></tr><tr><td>3090U5</td><td>S155</td><td>3090U5</td><td>S126</td><td rowspan="2">OK</td><td rowspan="2">If this updating disc was used, the product will be made up version.</td></tr><tr><td>3040C5</td><td>S155</td><td>3010C5</td><td>S155</td></tr></tbody></table>			Versions of updating disc		Versions of FL display		Judgment of updating disc	Descriptions	Main firm	Drive firm	Main firm	Drive firm	3090U5	S126	3090U5	S155	NG	If this updating disc was used, the product will be made down version. 1. Download latest firmware from TSN System and burn it to CD-R or CD-RW. 2. Update product with this download latest firmware.	3010C5	S155	3040C5	S155	3090U5	S155	3090U5	S126	OK	If this updating disc was used, the product will be made up version.	3040C5	S155	3010C5	S155
Versions of updating disc		Versions of FL display		Judgment of updating disc	Descriptions																											
Main firm	Drive firm	Main firm	Drive firm																													
3090U5	S126	3090U5	S155	NG	If this updating disc was used, the product will be made down version. 1. Download latest firmware from TSN System and burn it to CD-R or CD-RW. 2. Update product with this download latest firmware.																											
3010C5	S155	3040C5	S155																													
3090U5	S155	3090U5	S126	OK	If this updating disc was used, the product will be made up version.																											
3040C5	S155	3010C5	S155																													
8	Transfer [9][9] in the service mode setting, and initialize the service settings (return various settings and error information to their default values. The laser time is not included in this initialization).	Make sure that [CLR] appears in the FL display. After checking it, turn the power off.																														

Use the following checklist to establish the judgement criteria for the picture and sound.

Item	Contents	Check	Item	Contents	Check
Picture	Block noise		Sound	Distorted sound	
	Crosscut noise			Noise (static, background noise, etc.)	
	Dot noise			The sound level is too low.	
	Picture disruption			The sound level is too high.	
	Not bright enough			The sound level changes.	
	Too bright				
	Flickering color				
	Color fading				

14 Miscellaneous

14.1. Abbreviations

INITIAL/LOGO	ABBREVIATIONS
A	A0~UP ADDRESS ACLK AUDIO CLOCK AD0~UP ADDRESS BUS ADATA AUDIO PES PACKET DATA ALE ADDRESS LATCH ENABLE AMUTE AUDIO MUTE AREQ AUDIO PES PACKET REQUEST ARF AUDIO RF ASI SERVO AMP INVERTED INPUT ASO SERVO AMP OUTPUT ASYNC AUDIO WORD DISTINCTION SYNC
B	BCK BIT CLOCK (PCM) BCKIN BIT CLOCK INPUT BDO BLACK DROP OUT BLKCK SUB CODE BLOCK CLOCK BOTTOM CAP. FOR BOTTOM HOLD BYP BYPATH BYTCK BYTE CLOCK
C	CAV CONSTANT ANGULAR VELOCITY CBDO CAP. BLACK DROP OUT CD COMPACT DISC CDSCK CD SERIAL DATA CLOCK CDSRDATA CD SERIAL DATA CDRF CD RF (EFM) SIGNAL CDV COMPACT DISC-VIDEO CHNDATA CHANNEL DATA CKSL SYSTEM CLOCK SELECT CLV CONSTANT LINEAR VELOCITY COFTR CAP. OFF TRACK CPA CPU ADDRESS CPCS CPU CHIP SELECT CPDT CPU DATA CPUADR CPU ADDRESS LATCH CPUADT CPU ADDRESS DATA BUS CPUIRQ CPU INTERRUPT REQUEST CPRD CPU READ ENABLE CPWR CPU WRITE ENABLE CS CHIP SELECT CSYNCIN COMPOSITE SYNC IN CSYNCOUT COMPOSITE SYNC OUT
D	DACCK D/A CONVERTER CLOCK DEEMP DEEMPHASIS BIT ON/OFF DEMPH DEEMPHASIS SWITCHING DIG0~UP FL DIGIT OUTPUT DIN DATA INPUT DMSRCK DM SERIAL DATA READ CLOCK DMUTE DIGITAL MUTE CONTROL DO DROP OUT DOUT0~UP DATA OUTPUT DRF DATA SLICE RF (BIAS) DRPOUT DROP OUT SIGNAL DREQ DATA REQUEST DRESP DATA RESPONSE DSC DIGITAL SERVO CONTROLLER DSLF DATA SLICE LOOP FILTER DVD DIGITAL VIDEO DISC

INITIAL/LOGO	ABBREVIATIONS
E	EC ERROR TORQUE CONTROL ECR ERROR TORQUE CONTROL REFERENCE ENCSEL ENCODER SELECT ETMCLK EXTERNAL M CLOCK (81MHz/40.5MHz) ETSCLK EXTERNAL S CLOCK (54MHz)
F	FBAL FOCUS BALANCE FCLK FRAME CLOCK FE FOCUS ERROR FFI FOCUS ERROR AMP INVERTED INPUT FEO FOCUS ERROR AMP OUTPUT FG FREQUENCY GENERATOR FSC FREQUENCY SUB CARRIER FSCK FS (384 OVER SAMPLING) CLOCK
G	GND COMMON GROUNDING (EARTH)
H	HA0~UP HOST ADDRESS HD0~UP HOST DATA HINT HOST INTERRUPT HRXW HOST READ/WRITE
I	IECOUT IEC958 FORMAT DATA OUTPUT IPFRAG INTERPOLATION FLAG IREF I (CURRENT) REFERENCE ISEL INTERFACE MODE SELECT
L	LDON LASER DIODE CONTROL LPC LASER POWER CONTROL LRCK L CH/R CH DISTINCTION CLOCK
M	MA0~UP MEMORY ADDRESS MCK MEMORY CLOCK MCKI MEMORY CLOCK INPUT MCLK MEMORY SERIAL COMMAND CLOCK MDATA MEMORY SERIAL COMMAND DATA MDQ0~UP MEMORY DATA INPUT/OUTPUT MDQM MEMORY DATA I/O MASK MLD MEMORY SERIAL COMMAND LOAD MPEG MOVING PICTURE EXPERTS GROUP
O	ODC OPTICAL DISC CONTROLLER OFTR OFF TRACKING OSCI OSCILLATOR INPUT OSCO OSCILLATOR OUTPUT OSD ON SCREEN DISPLAY
P	P1~UP PORT PCD CD TRACKING PHASE DIFFERENCE PCK PLL CLOCK PDVD DVD TRACKING PHASE DIFFERENCE PEAK CAP. FOR PEAK HOLD PLLCLK CHANNEL PLL CLOCK PLLCK PLL LOCK PWMCTL PWM OUTPUT CONTROL PWMDA PULSE WAVE MOTOR DRIVE A PWMOA, B PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE OUTPUT
	RS	(CD-ROM) REGISTER SELECT
	RSEL	RF POLARITY SELECT
	RST	RESET
S	RSV	RESERVE
	SBI0, 1	SERIAL DATA INPUT
	SBO0	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK RECEIVER
	SCL	SERIAL CLOCK
	SCLK	SERIAL CLOCK
	SDA	SERIAL DATA
	SEG0~UP	FL SEGMENT OUTPUT
	SELCLK	SELECT CLOCK
	SEN	SERIAL PORT ENABLE
	SIN1, 2	SERIAL DATA IN
	SOUT1, 2	SERIAL DATA OUT
	SPDI	SERIAL PORT DATA INPUT
	SPDO	SERIAL PORT DATA OUTPUT
	SPEN	SERIAL PORT R/W ENABLE
	SPRCLK	SERIAL PORT READ CLOCK
	SPWCLK	SERIAL PORT WRITE CLOCK
	SQCK	SUB CODE Q CLOCK
	SQCX	SUB CODE Q DATA READ CLOCK
	SRDATA	SERIAL DATA
	SRMADR	SRAM ADDRESS BUS
	SRMDT0~7	SRAM DATA BUS 0~7
	SS	START/STOP
	STAT	STATUS
	STCLK	STREAM DATA CLOCK
	STD0~UP	STREAM DATA
	STENABLE	STREAM DATA INPUT ENABLE
	STSEL	STREAM DATA POLARITY SELECT
	STVALID	STREAM DATA VALIDITY
	SUBC	SUB CODE SERIAL
	SBCK	SUB CODE CLOCK
	SUBQ	SUB CODE Q DATA
	SYSCLK	SYSTEM CLOCK
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSS SIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VIDEO FEED BACK
	VREF	VOLTAGE REFERENCE
W	VSS	SOURCE POWER SUPPLY VOLTAGE
	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
X	WSR	WORD SELECT RECEIVER
	X	X' TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPT REQUEST
	XI	X' TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X' TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIP SELECT
	XVDS	X V-DEC CONTROL BUS STROBE
	XVSYNCO	X VERTICAL SYNC OUTPUT

15 Voltage Measurement and Waveform Chart

Note:

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
- Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point because it may differ from actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

15.1. Voltage Measurement

15.1.1. Main P.C.B

MAIN P.C.B																				
Ref No.	IC1505																			
MODE	1	2	3	4	5															
CD PLAY	3.6	0	4.1	0	3.3															
STANDBY	3.9	0	4.1	0	3.3															
Ref No.	IC1506																			
MODE	1	2	3	4	5															
CD PLAY	5.8	4.8	0	2.6	0															
STANDBY	6	4.8	0	2.3	0															
Ref No.	IC1507																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.2	0	1.3	0	5.8	0	0	5.8												
STANDBY	5.2	0	1.3	0	6	0	0	6												
Ref No.	IC1510																			
MODE	1	2	3	4	5															
CD PLAY	5.7	4.9	5	0	0															
STANDBY	6	0	0	0	0															
Ref No.	IC1520																			
MODE	1	2	3	4	5															
CD PLAY	5.8	0	0	0	5															
STANDBY	6	0	0	0	5															
Ref No.	IC1521																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	3.3	0	1.3	0	4.8	0	0	3.6												
STANDBY	3.3	0	1.3	0	4.8	0	0	3.8												
Ref No.	IC3001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2	2.5	1.6	0	1.6	5	0	5	0	3.3	0	0.6	0.7	1.1	1.2	0.6	1.6	0	1.2	1.3
STANDBY	0.1	2.5	0.1	0	0.1	0	0	0	0	2.3	0	0	1.9	0	0	4.9	0	0	0	0
Ref No.	IC3001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	1.8	1.4	1.4	5	1.2	11.1	1.2	0	2.6	1.6	0	1.6	4.1	1.6	0	1.6	0	1.6	5
STANDBY	0	0	0	0	0	0	0	0	0	1.6	1.6	0	1.6	0	1.6	0	1.6	0	1.6	0
Ref No.	IC3001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	1.6	5	2	0	2	11.7	1.6	2	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	9.5	4.7	4.7	4.7
STANDBY	0	0	0.1	0	0	0	1.6	0.1	0	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0	0.2	0.2	0.3
Ref No.	IC3001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	4.7	4.7	4.7	4.7	9.5	0	0	0	0	0	4.7	4.7	4.7	4.7	0	0	4.7	9.6	0	0
STANDBY	0.2	0.2	0.2	0.2	0	0	0	0	0	0	0.4	0.4	0.4	0.4	0	0	0	0	0	0
Ref No.	IC3001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	2.1	5	2.1	0	3.3	4.6	4.6	4.5	4.3	5	2	2.6	1.8	5	1.6	0	1.6	0	1.6	2.5
STANDBY	0	0	0.9	5	1	0	0	4.8	4.8	0	0.1	0.8	0.1	5	0.2	0	0	0	0.2	0

Ref No.	IC4009																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.8	5.8	5.8	0	5.8	5.8	5.8	11.3												
STANDBY	0.5	0.5	0.3	0	0.3	0.5	0.5	0												
Ref No.	IC4011																			
MODE	1	2	3	4	5															
CD PLAY	1.3	0	4.8	5.8	5															
STANDBY	1.3	0	4.8	6	5															
Ref No.	IC4012																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.8	5.8	5.8	0	5.8	5.8	5.8	11.3												
STANDBY	0.3	0.3	0	0	0	0.3	0.3	0												
Ref No.	IC7301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	2.5	2.5	4.9	0	0	4.9	0	0	0	0.4	0	1	0	1.6	0	0	0	0	0	0
STANDBY	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0
Ref No.	IC7301																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.3	0	2	2	2	4.9	0	4.9	4.5	4.3	1.1	1.1	1.3	2	4.9	0	4.9	2.5	2.5	2.5
STANDBY	0	0	0	0	0	0	0	0	4.8	4.8	0	0	0	0	0	0	0	0	0	0
Ref No.	IC7301																			
MODE	41	42	43	44																
CD PLAY	2.5	4.9	2.5	0																
STANDBY	0	0	0.1	0																
Ref No.	IC7302																			
MODE	1	2	3																	
CD PLAY	0	0	0																	
STANDBY	0	0	0																	
Ref No.	IC7401																			
MODE	1	2	3	4	5															
CD PLAY	12.6	0	0	2.6	0															
STANDBY	12.7	0	0	0	0															
Ref No.	IC7402																			
MODE	1	2	3	4	5															
CD PLAY	5.8	0	5.8	0	5															
STANDBY	0	0	6	0	5															
Ref No.	IC7403																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5	0	1.3	0	4.4	0	0	5.7												
STANDBY	0	0	0.1	0	0.1	0	0	6												
Ref No.	IC7404																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0	3.3	3.3	0	3.3												
STANDBY	0	0	0	0	3.3	3.3	0	3.3												
Ref No.	IC7501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	4.4	4.8	0	1.2	1.1	4.3	0	0	1.8	1.2	0	1.3	0	2	3.3	4.3	3.3	3.2	1.5
STANDBY	2.5	4.5	4.8	0	0.2	0.2	4.3	0	0	0.9	1.2	0	1.6	0	2	5	4.9	3.3	3.3	0.1
Ref No.	IC7501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	3.3	0	3.2	0	0	0	0	0	4.5	4.2	0.1	3.3	0	0	0.1	3.3	3	0	0	4.7
STANDBY	3	0	3.3	0	0	0	0	0	4	4	0.1	3.3	0	0	3.3	0	3.3	0	0	4.6
Ref No.	IC7501																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	4.9	4.9	4.9	4.8	3	4.9	5	4.9	0	0	4.9	0	0	0	0	0	0	0	0	4.6
STANDBY	4.9	0	0	0	3	4.9	0	4.9	4.9	0	4.9	0	0	0	0	0	0	0	4.9	4.6
Ref No.	IC7501																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	0	0	0	4.9	4.9	0	0	0	0	4.9	0	4.1	0	4.9	0	4.9	0	0	0.6
STANDBY	0	0	0	0	0	4.9	0	4.9	0	0	0	0	4.5	4.1	4.5	4.9	0	4.9	0	4.3
Ref No.	IC7501																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	2.3	4.2	4.9	4.9	4.9	3.1	4.9	0	0	2.6	1.1	1.1	0	0	2.4	4.6	0.6
STANDBY	0	0	0	0.9	0	4.9	4.9	4.9	1.1	4.9	0	0	2.6	1.1	0	0	1.1	0	0	1.8

Ref No.	IC7502																			
MODE	1	2	3	4	5															
CD PLAY	0	0	0	4.9	4.9															
STANDBY	0	0	0	4.9	4.9															
Ref No.	IC7504																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	-21	-21	3	0	2.1	2.1	4.9	4.9	4.3	1.6	-18.6	-18.6	-18.6	-18.5	-21.1	-18.5	-18.5	-18.5	-18.5	-18.5
STANDBY	21.1	21.1	3	0	0	2.1	4.9	4.9	4.9	1.5	-18.5	-18.5	-18.6	-18.6	-21.1	-18.6	-18.6	-18.6	-18.6	-18.6
Ref No.	IC7504																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	-18.5	-21.1	-18.5	-21	-21	-18.5	-15.9	-15.9	-18.5	-18.5	-15.9	-15.9	-21.1	-21.1	-21.1	-16	-21	-21	-21.1	-21.1
STANDBY	-21.1	-18.6	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	-21.1	0	0	-21.1	-21.1	-21.1	-21.1	0	-21.1
Ref No.	IC7505																			
MODE	1	2	3	4	5															
CD PLAY	0	0	0	4.9	4.9															
STANDBY	4.1	5.2	0	0	0															
Ref No.	IC7506																			
MODE	1	2	3	4	5															
CD PLAY	0	0	0	4.9	4.9															
STANDBY	2.2	3.3	0	0	0															
Ref No.	Q1509																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	13	13	13	6.5	12.9	12.9	13	12.9												
STANDBY	12.8	12.8	12.8	12.8	0	0	0	0												
Ref No.	Q4006				Q4007				Q4008				Q4009				Q7401			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	-2.3		0	0	-2.4		0	0	-2.3		0	0	-2.4		6.5	11.7	7	
STANDBY	0	0	0.7		0	0	0.7		0	0	0.7		0	0	0.7		0	0	0	
Ref No.	Q7402				Q7501				Q7502				Q7503				Q7504			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0.1	0.6		3.6	0	3.3		0	13.2	0		0	0	-0.3		3.3	5	3.3	
STANDBY	0	35.8	0		1.7	0	1		1.1	5	1.6		1.7	0	1		1.1	5	1.6	
Ref No.	Q7505				Q7506				Q7508				Q7510				Q7513			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-18.7	4.9	-18.7		0	4.9	0		0	4.2	0		0	12.5	0		0	13.6	0	
STANDBY	-18.6	4.9	-18.6		0	4.9	0		0	6.1	0		0	12.4	0		0	12.8	0	
Ref No.	QR1501				QR4002				QR4003				QR4004				QR7401			
MODE	E	C	B		E	C	B			C	B		E	C	B		E	C	B	
CD PLAY	0	0	4.9		0	5.2	0		5.2	-3.4	5.2		0	5.1	0		0	4.4	0	
STANDBY	0	12.7	0		5.2	5.1	0		0	0	2.9		0	0	2.9		0	0	4.9	
Ref No.	QR7402				QR7403				QR7404				QR7506				QR7507			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	33.6	33.7	0.1		0	11.6	0		0	0	4.8		0	0	2.2		0	0	4.1	
STANDBY	36	29	35.8		0	0	4.9		0	0	0		0	0	2.2		0	0	4.1	
Ref No.	QR7508																			
MODE	E	C	B																	
CD PLAY	0	0	0																	
STANDBY	0	0	0																	

15.1.2. Power P.C.B

POWER P.C.B																				
Ref No.	IC1150																			
MODE	1	2	3	4	5	6	7	8	9											
CD PLAY	-0.4	-0.4	-0.6	-0.8	-1.3	-	0.7	-	-10.3											
STANDBY	-0.4	1	-0.3	-0.8	-0.5	-	1.7	-	-5.6											
Ref No.	IC1200																			
MODE	1	2	3																	
CD PLAY	4.7	-0.1	2.7																	
STANDBY	4.7	0	2.5																	
Ref No.	Q1200																			
MODE	1	2	3	4																
CD PLAY	5.9	4.8	-1.5	-1.1																
STANDBY	5.9	4.8	-0.8	-0.7																
Ref No.	Q1110			Q1203				Q1204				QR1201				QR1202				
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	-0.1	0	0.6		-12.2	-12.2	-11.5		13	0.1	1		12.8	12.8	-0.1		-0.1	0	4	
STANDBY	0	6	0		-14.3	0.2	-12.3		12.7	0	12.2		0	-11.4	0		0	12.2	0	

15.1.3. D-AMP P.C.B

D-AMP P.C.B																				
Ref No.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	-0.2	0	0	0.2	0	0	0.2	0
STANDBY	0	0	0	0	0	0	0	0	0	0	0	0	-0.2	0	0	0.2	0	0	0.2	0
Ref No.	IC2501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	-0.2	0	-0.2	-0.2	0	-0.2	0	-0.2	0	-0.2	0	-0.2	0	-0.2	-0.2	-0.2
STANDBY	0	0	0	0	-0.2	0	-0.2	-0.2	0	-0.2	0	-0.2	0	-0.2	0	-0.2	0	-0.2	-0.2	-0.2
Ref No.	IC2501																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52								
CD PLAY	0	0	-0.5	0	0	0	-0.5	0	0	0	-0.5	0								
STANDBY	0	0	-0.5	0	0	0	-0.5	0	0	0	-0.5	0								
Ref No.	IC2502																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0	0	0	0	0												
STANDBY	0	0	0	0	0	0	0	0												
Ref No.	IC2503																			
MODE	1	2	3	4	5															
CD PLAY	0.4	0	0	0	0															
STANDBY	1.5	0	0	0	0															
Ref No.	IC2701																			
MODE	1	2	3	4	5															
CD PLAY	-0.4	-0.4	0	-0.3	-0.3															
STANDBY	-1.7	-1.7	0.6	1.7	-1.7															
Ref No.	IC2702																			
MODE	1	2	3																	
CD PLAY	0.1	0	0																	
STANDBY	0	0	0																	
Ref No.	IC2703																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-0.6	0	0	0	0												
STANDBY	0	0	0	-0.5	0	0	0	0												
Ref No.	IC2705																			
MODE	1	2	3																	
CD PLAY	0	0	0.1																	
STANDBY	0	0	0																	
Ref No.	IC2781																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
STANDBY	0	0	0	0	0	0	0	0.1	0	0	-0.1	0.1	0	0						
Ref No.	Q2501				Q2502				Q2503				Q2504				Q2514			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0.2	0		-0.1	0.1	-0.1		0.1	0	0.1		6	0	5.3		0	0	0	
STANDBY	-0.2	0	-0.2		-0.2	0	-0.2		0	0	0		0	0	1.4		0	0	0	
Ref No.	Q2515				Q2522				Q2523				Q2524				Q2525			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0	0		0	12	0		0	12	0		0	0	0.7		0	0	0.7	
STANDBY	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	

Ref No.	Q2595				Q2596				Q2701				Q2702				Q2703			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	0	0.2	0		0	0.2	0		-0.9	-0.8	-0.7		0.6	25.2	-3.1		0	0	0.6	
STANDBY	0	0.2	0		0	0.2	0		-0.2	-0.1	-0.1		0	0	0		0	1.3	0	
Ref No.	Q2704				Q2740				Q2741				Q2742				Q2744			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
CD PLAY	7.5	25.5	7.5		6.6	24.6	7.2		0	0.2	0		0	0.2	0		0	0	0	
STANDBY	0	0	0		0	0	0		0	0.2	0		0	0	0		0	0	0	

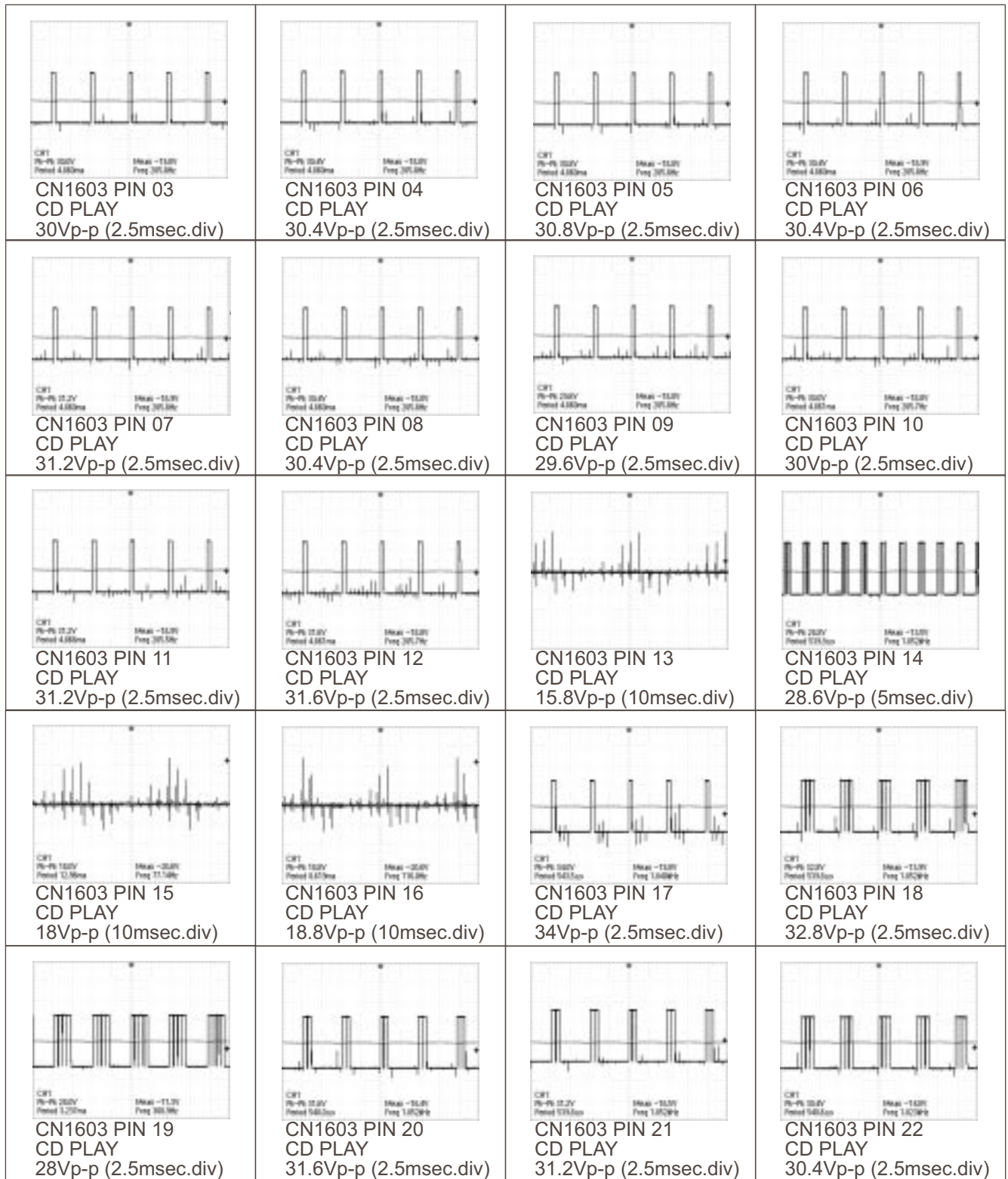
15.1.4. Audio Main P.C.B

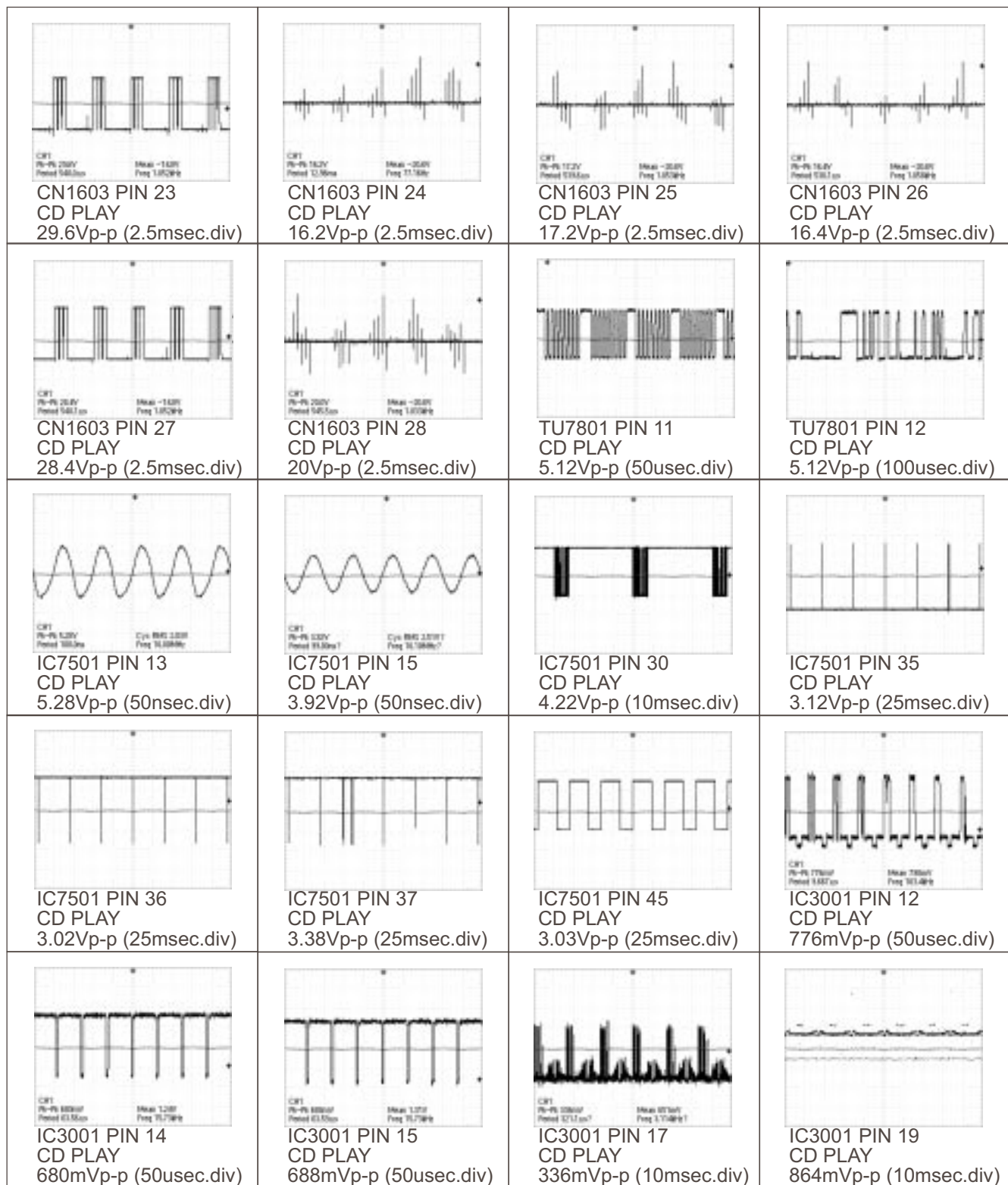
AUDIO MAIN P.C.B																				
Ref No.	IC31																			
MODE	1	2	3																	
CD PLAY	12.9	0	9.1																	
STANDBY	0	0	0.5																	
Ref No.	IC151																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	2.5	2.5	5.1	0	2.5	2.5	0	2.7	2.6	0	5.1	5.1	0	0	0	0				
STANDBY	0.1	0.1	0.5	0	0.1	0.1	0.1	0.3	0.3	0	0.5	0.5	0	0.4	0	0.6				
Ref No.	IC401																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	0	0	0	0	0	0	0	0	0	0	-7.1	0	0	0						
STANDBY	0.1	0	0.1	0.5	0.1	0	0.1	0.1	0	0.1	0.5	0.1	0	0.1						
Ref No.	IC501																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-7	0	0	0	7												
STANDBY	0	0	0	0.5	0	0.1	0.1	0.5												
Ref No.	IC502																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0	0	0.1	0.1	0	0.1
Ref No.	IC502																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0.1	0.1	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0	0.1	0.1	0.1	0	0.1	0
Ref No.	IC502																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	0	0	0	0	0	0	0	0	1.4	0	0	0.1	0	0	0	0	0	0	0
STANDBY	0.1	0	0	0.1	0.1	0.1	0	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0
Ref No.	IC502																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	0	0	0	0	5.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0.1	0.1	0	0	0	0.1	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0
Ref No.	IC502																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	0	-7.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STANDBY	0	0	0.1	0	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0	0.1	0.1	0	0	0.1	0.1
Ref No.	IC503																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
CD PLAY	0	0	0	0	0	0	0	0.1	0	0	-7.1	0	0	0.1						
STANDBY	0.1	0.1	0	0.5	0	0.1	0.1	0.1	0	0	0.5	0	0	0.1						
Ref No.	IC504																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0.1	0.1	0	0.1	0.1	0.1	0.1	0.1												
STANDBY	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.5												
Ref No.	IC505																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
CD PLAY	0	0.1	0	0	0	0	0.5	0	0	0	0	0.1	0	0.1	0.1	0.1				
STANDBY	0.1	0	0	0	0	0	0.5	0	0	0	0	0.1	0	0	0	0.3				

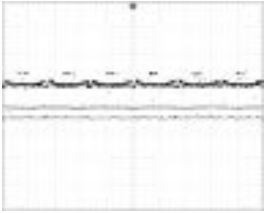
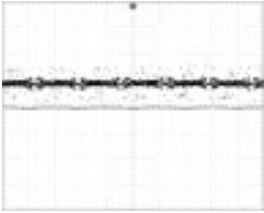
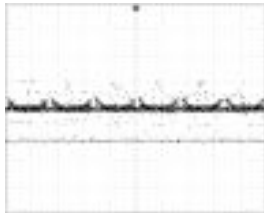
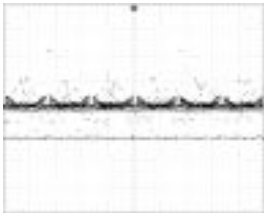
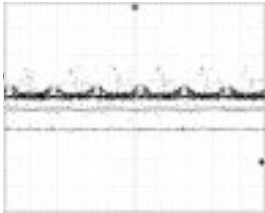
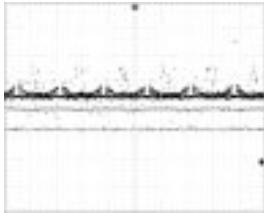
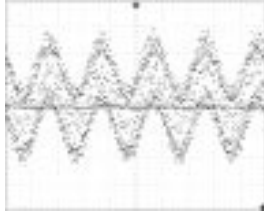
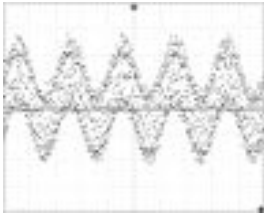
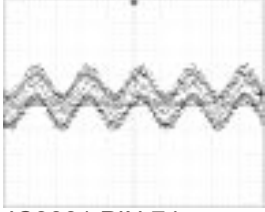
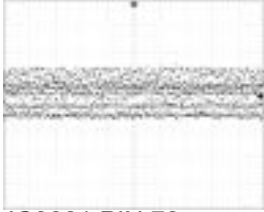
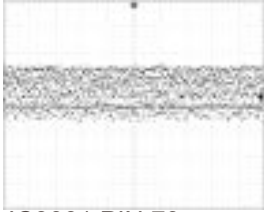
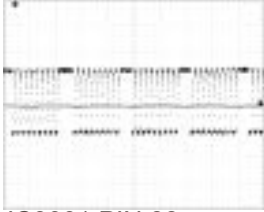
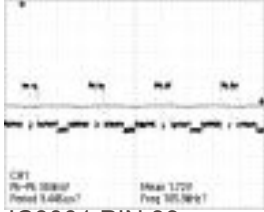
Ref No.	IC506																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	-7	0	0	0	7												
STANDBY	0.1	0	0	0.6	0	0.1	0	0.6												
Ref No.	IC601																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	0	0	0	0.5	0	0	0	0.1												
STANDBY	0	0	0	0.5	0	0	0	0.5												
Ref No.	IC731																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.6	1.1	0.1	-7.1	0	2.5	-5.6	5.1												
STANDBY	0.1	0.1	0.1	0.5	0.1	0.2	0.2	0.4												
Ref No.	IC801																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CD PLAY	0	0	5.1	0	0	0.5	0	0	0	0	0	5.1	2.5	0	2.5	5.1	5.1	5	0	5
STANDBY	0	0	5.4	0	0	0	0	0	0	0	0	5.4	2.7	0	2.6	5.4	5.4	5	0	0
Ref No.	IC801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CD PLAY	0	0	0	0	0.5	0	0	0	5.1	5.1	0	0.1	0	0	1.8	3	4.4	4.2	0	0
STANDBY	0	0	0	0	0.5	0	0	0	5.4	5.4	0	0.1	0	0	0	0	0	0	0	0
Ref No.	IC801																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
CD PLAY	0	0	0	0	0	5.1	5.1	0	0	0	0	0	5	0	3	0	0	0	5.2	5.2
STANDBY	0	0	0	0	0	5.4	0.5	0	0	0	0	0	0	0	3	0	0	0	5.4	5.4
Ref No.	IC801																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
CD PLAY	0	5.1	5.2	0	0	0	0	0	0	0	5.2	0	0	0	0	0.6	0	0	0	0
STANDBY	0	5.4	5.4	0	0	0	0	0	0	0	5.4	5.4	0	0	0	0.6	0	0	0	0
Ref No.	IC801																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
CD PLAY	0	0	0	0	5.2	0	0	0	0	0	0	0	0	0	0	0	5.2	5.2	5.1	0
STANDBY	0	0	0	0	5.4	0	0	0	0	0	0	0	0	0	0	0	5.4	5.5	5.4	0
Ref No.	IC802																			
MODE	1	2	3	4	5	6	7	8												
CD PLAY	5.2	5.2	5.1	0	0	0	0	0												
STANDBY	5.3	5.3	0	0	0	0	0	0												
Ref No.	Q602																			
MODE	1	2	3	4	5	6														
CD PLAY	0	-3.9	0	0	-3.9	0														
STANDBY	0	0.7	0	0	0.7	0														
Ref No.	Q610																			
MODE	1	2	3	4	5	6														
CD PLAY	0	-3.9	0	0	-3.9	0														
STANDBY	0	0.7	0	0	0.7	0														
Ref No.	Q621																			
MODE	1	2	3	4	5	6														
CD PLAY	0	-3.9	0	0	-3.9	0														
STANDBY	0	0.7	0	0	0.7	0														

Ref No.	Q690																		
MODE	1	2	3	4	5	6													
CD PLAY	0	-7.1	0	0	-7.1	0													
STANDBY	0	0.7	0	0	0.7	0													
Ref No.	Q761																		
MODE	1	2	3	4	5	6													
CD PLAY	0	-7.1	0	0	-7.1	0													
STANDBY	0	0.5	0	0	0.5	0													
Ref No.	Q21				Q22				Q23				Q51				Q604		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	7	12.1	7.7		-7.1	-12	-7.8		0	-7.8	0.6		4.4	5.9	5		2.7	2.6	2
STANDBY	0.5	0.1	0		0.5	0.3	0.3		0	0.3	0.5		4.6	6.2	5.2		2.8	2.7	2.1
Ref No.	Q605				Q611				Q612				Q613				Q624		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	0	0	-4.8		0	0	0.7		0	0	0.7		1.6	1.5	0.9		4.4	-3.9	5.1
STANDBY	0.1	0	0.4		0	0	0.7		0	0	0.7		1.7	1.6	1		3	2.9	2.3
Ref No.	Q701				Q702				QR601				QR605				QR608		
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B
CD PLAY	7	-2	6.9		0	5.2	-2		0	0.1	0		0	0.3	0		0.8	0.7	0
STANDBY	0.4	0.5	0.4		0	1	0.5		0	0.1	0		0	0.4	0		0.8	0.7	0
Ref No.	QR691				QR771				QR801										
MODE	E	C	B		E	C	B		E	C	B								
CD PLAY	4.6	-7.1	5.1		0	-7.1	0		0	5.1	0								
STANDBY	3.4	3.3	0		0	0.5	0		0	5.4	0								

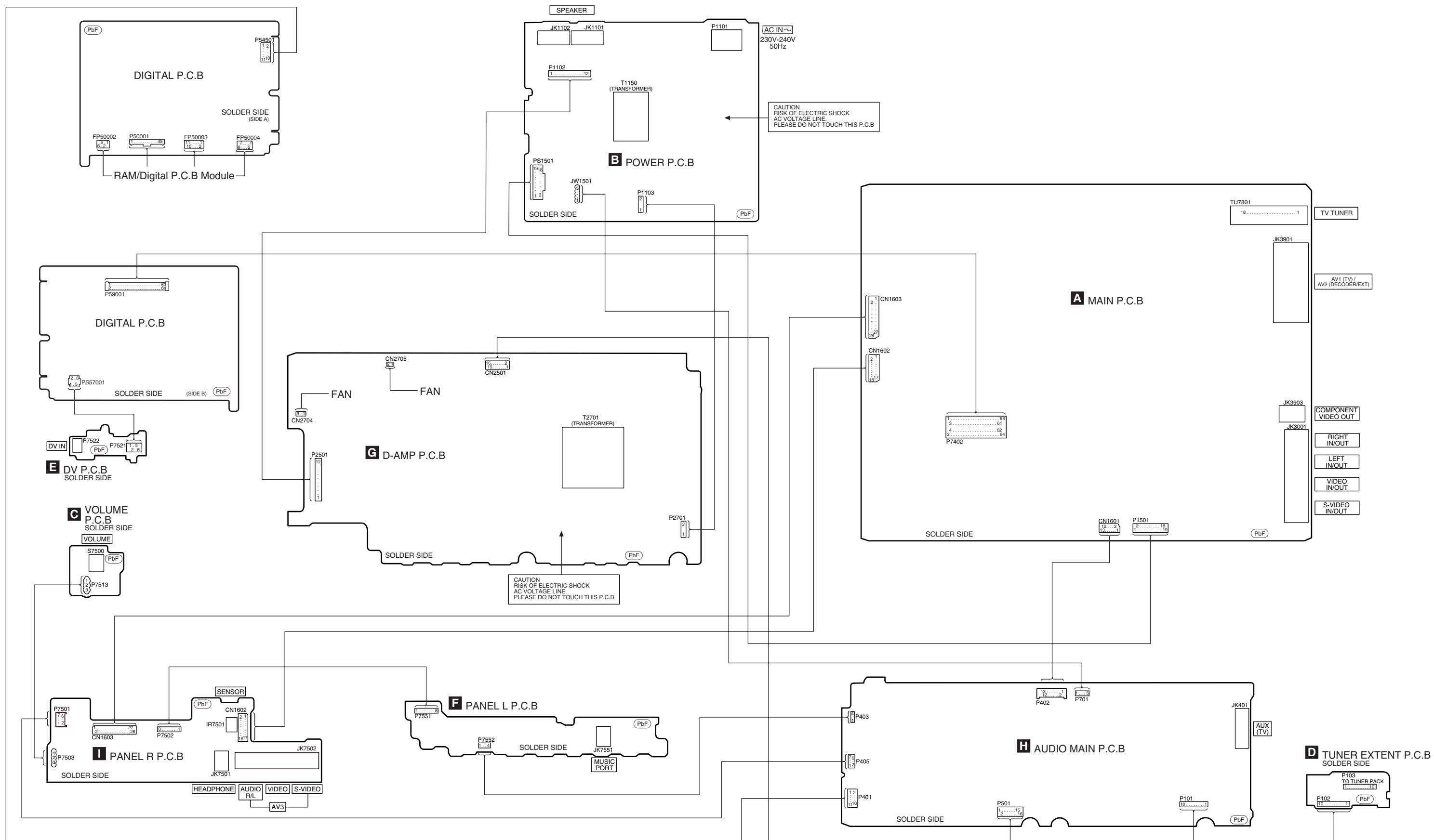
15.2. Waveform



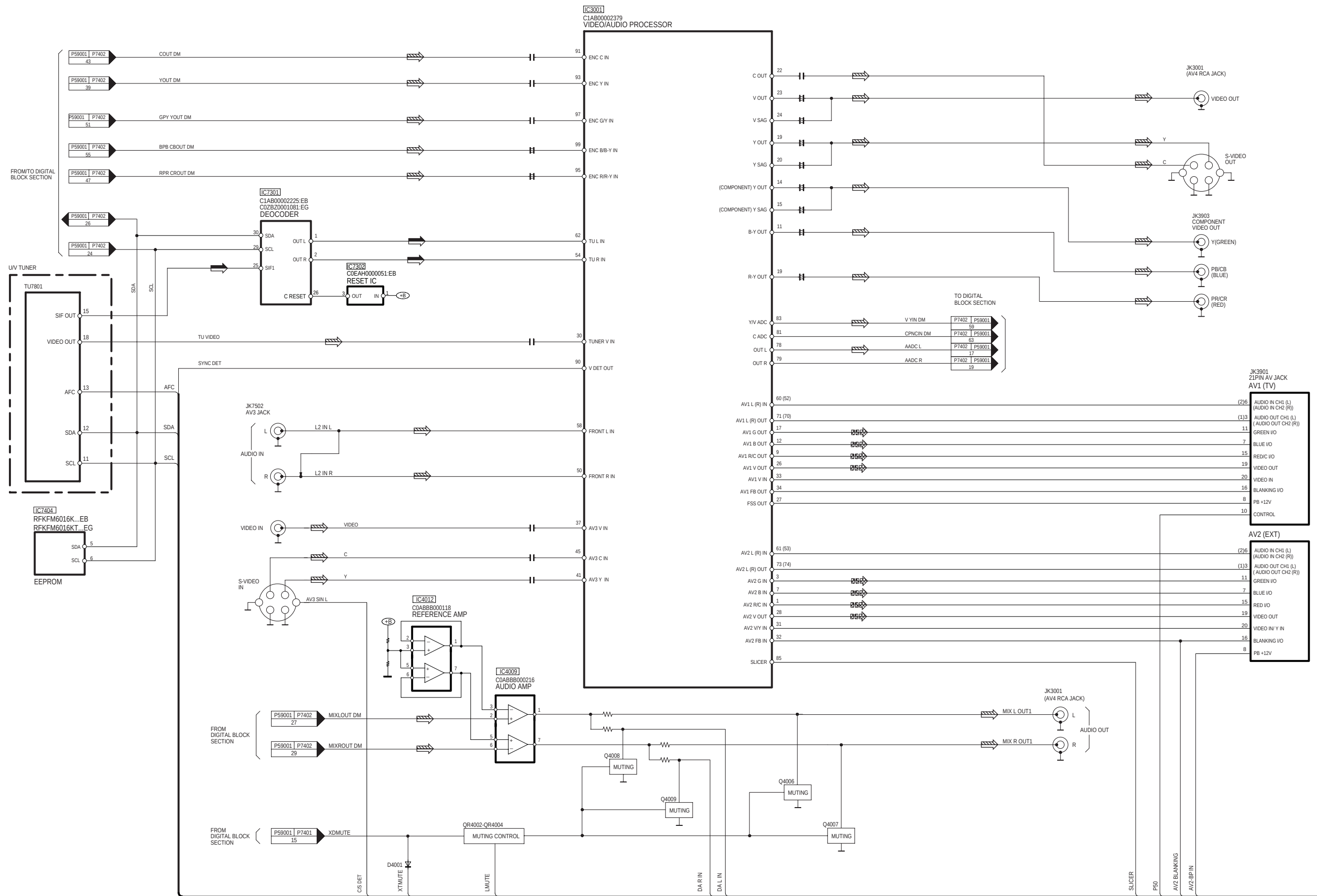


 IC3001 PIN 20 CD PLAY 560mVp-p (10msec.div)	 IC3001 PIN 22 CD PLAY 564mVp-p (10msec.div)	 IC3001 PIN 23 CD PLAY 484mVp-p (10msec.div)	 IC3001 PIN 24 CD PLAY 664mVp-p (10msec.div)
 IC3001 PIN 26 CD PLAY 565mVp-p (10msec.div)	 IC3001 PIN 28 CD PLAY 612mVp-p (10msec.div)	 IC3001 PIN 71 CD PLAY 2.85Vp-p (500usec.div)	 IC3001 PIN 73 CD PLAY 2.95Vp-p (500usec.div)
 IC3001 PIN 74 CD PLAY 2.64Vp-p (500usec.div)	 IC3001 PIN 78 CD PLAY 2.12Vp-p (10msec.div)	 IC3001 PIN 79 CD PLAY 2.24Vp-p (10msec.div)	 IC3001 PIN 88 CD PLAY 5.12Vp-p (50usec.div)
 IC3001 PIN 89 CD PLAY 5.2Vp-p (50usec.div)	 IC3001 PIN 99 CD PLAY 384mVp-p (25usec.div)		

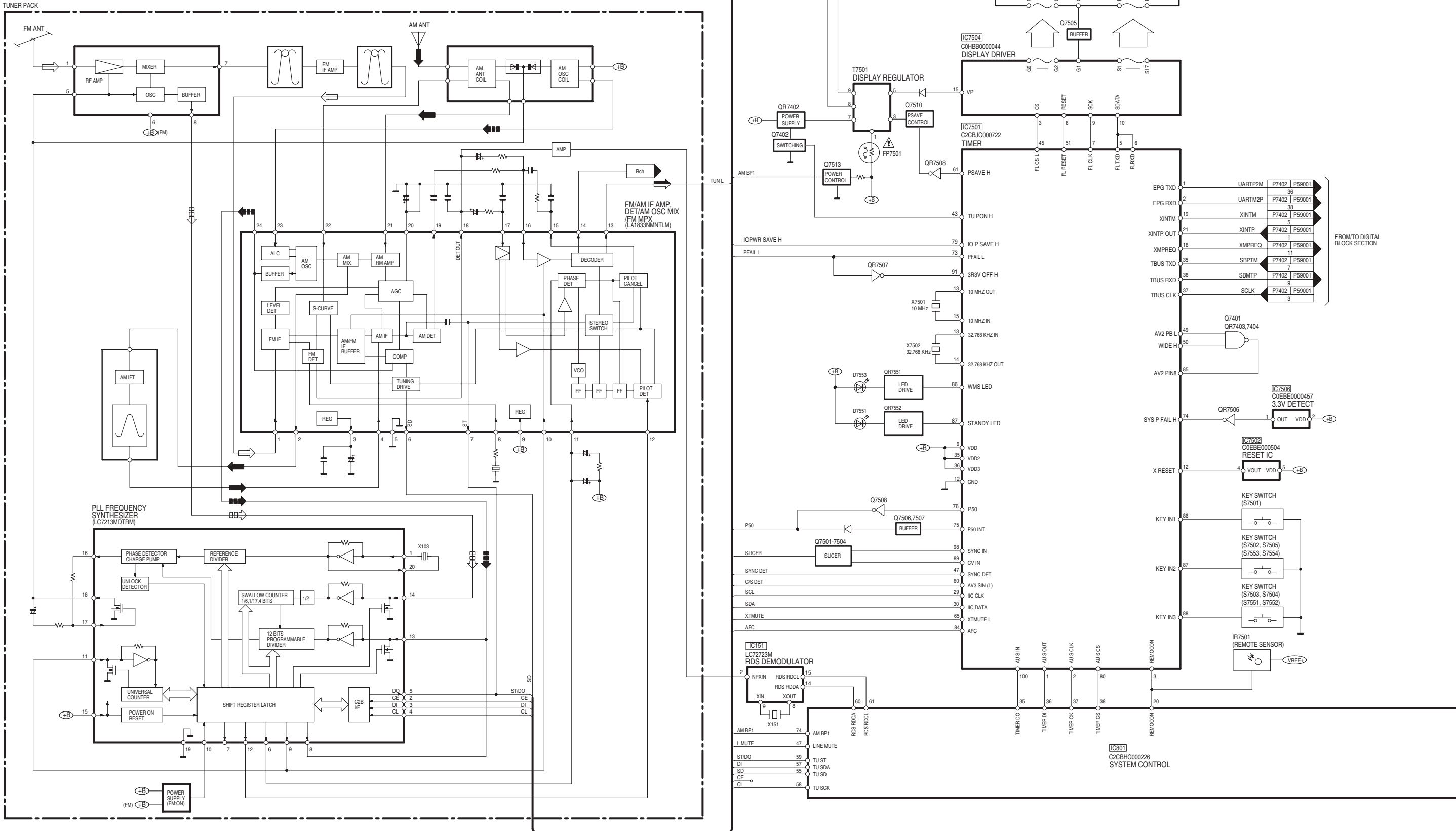
16 Wiring Connection Diagram



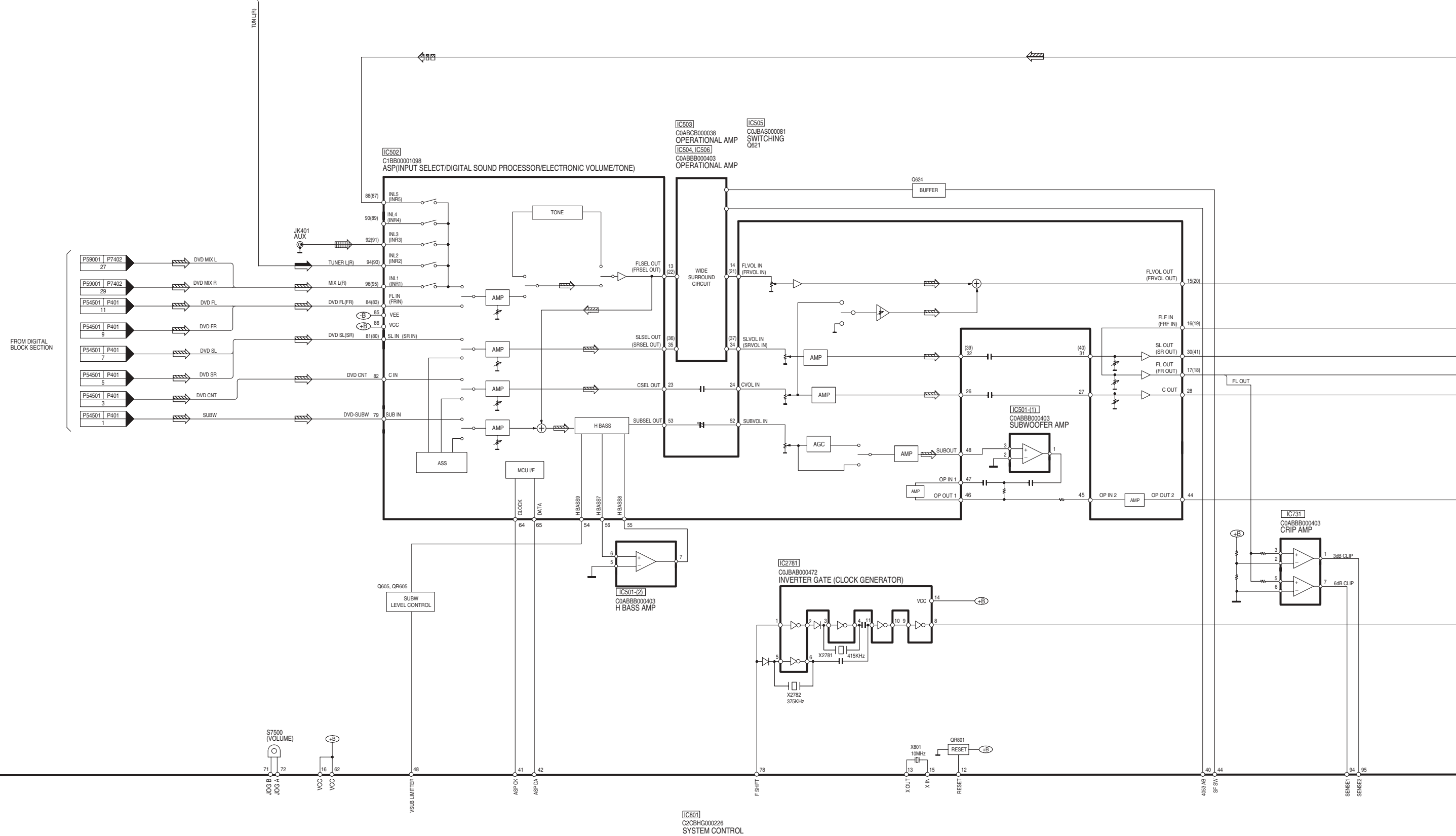
17 Block Diagram



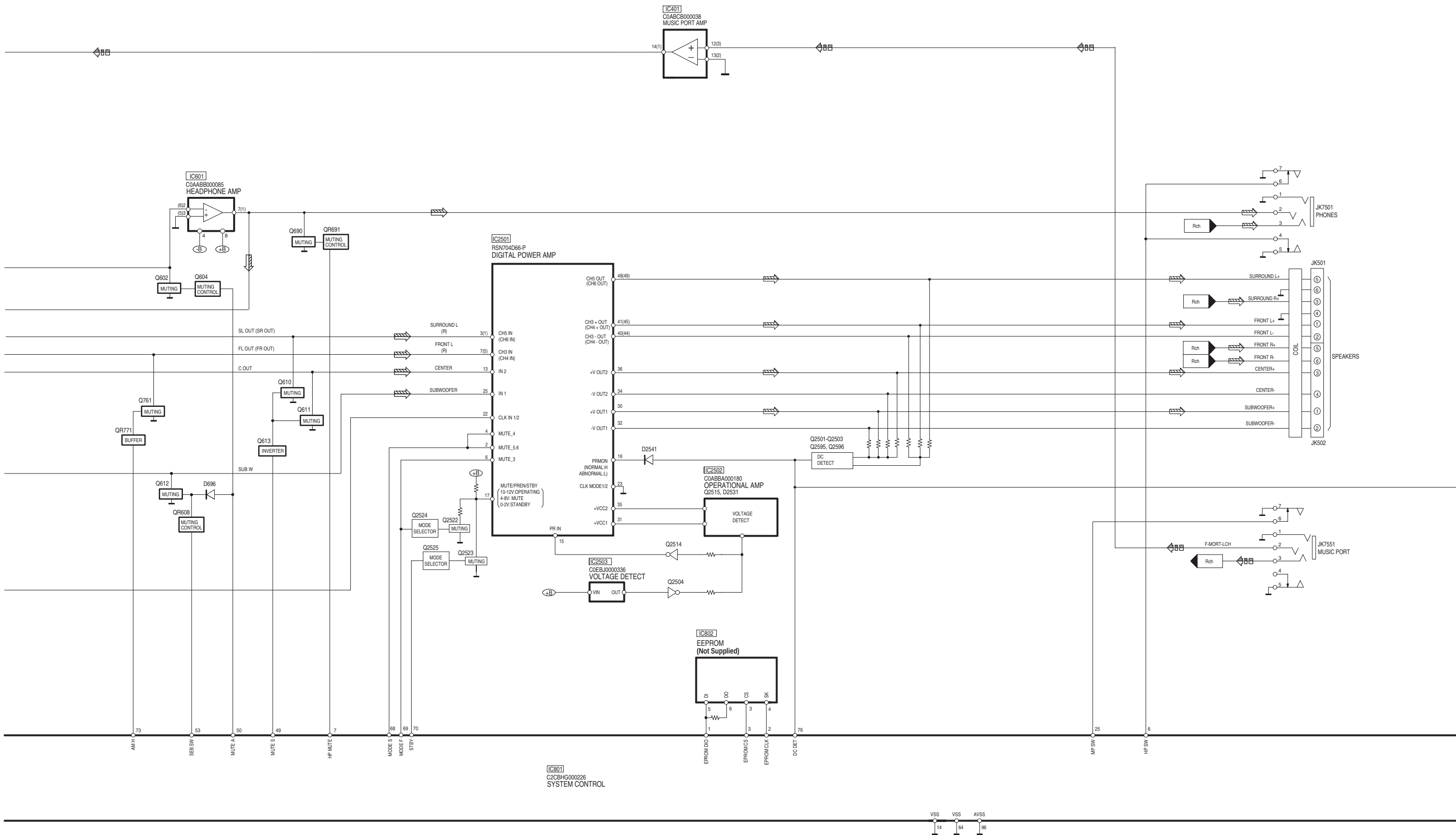
SA-RT70EB/EG BLOCK DIAGRAM



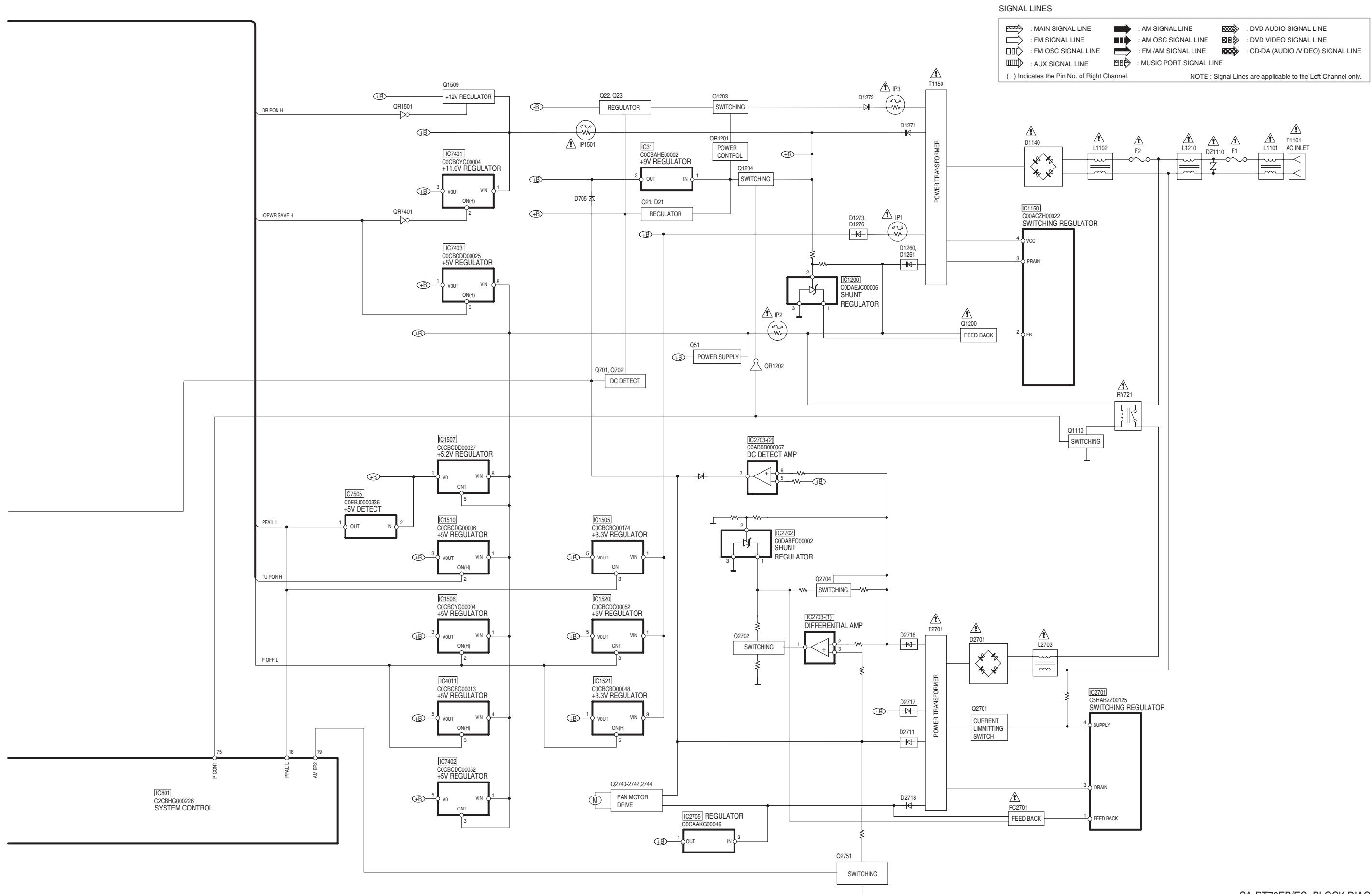
SA-RT70EB/EG BLOCK DIAGRAM



SA-RT70EB/EG BLOCK DIAGRAM



SA-RT70EB/EG BLOCK DIAGRAM



18 Notes of Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

S7500	VR Volume Jog
S7501	Open/Close switch
S7502	Stop switch
S7503	Selector switch
S7504	Play switch
S7505	REC switch
S7551	CH_Up switch
S7552	Power switch
S7553	CH_Down switch
S7554	SURROUND switch

• Importance safety notice :

Components identified by  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Put a conductive mat on the work table.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.

Note:

- This manual does not contains the schematic diagrams for digital P.C.B. Refer to original service manual order No. (MD0605189A2) for the schematic diagram
- Pairing of RAM Drive & digital P.C.B as "RAM/Digital P.C.B Module" is needed & replaced together.
- If the pairing is changed. RAM Drive unit has to be aligned due to the alignment data for RAM Drive is stored in the digital P.C.B.

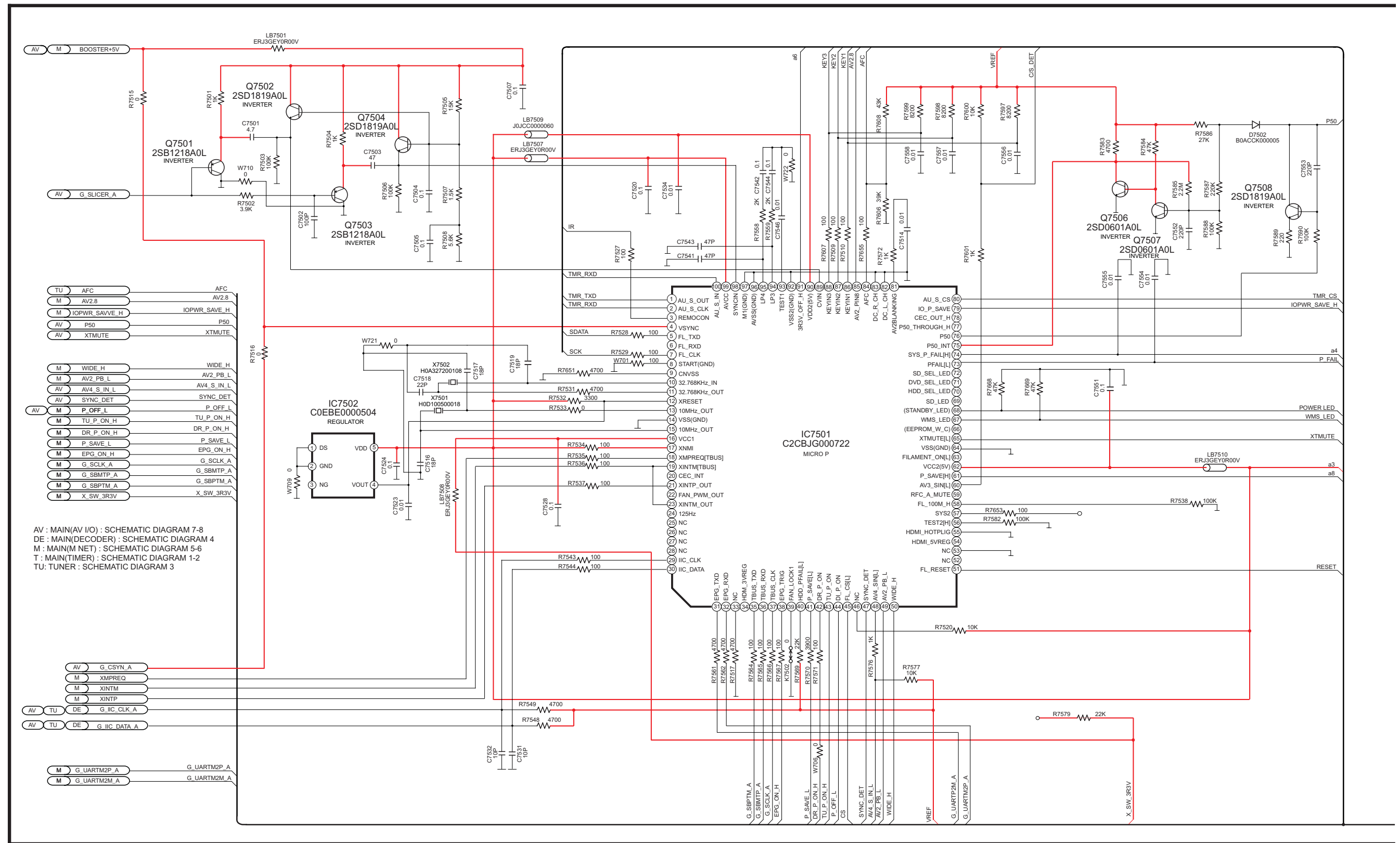
19 Schematic Diagram

19.1. Main Circuit

SCHEMATIC DIAGRAM-1

A MAIN (TIMER) CIRCUIT

— :+B SIGNAL LINE

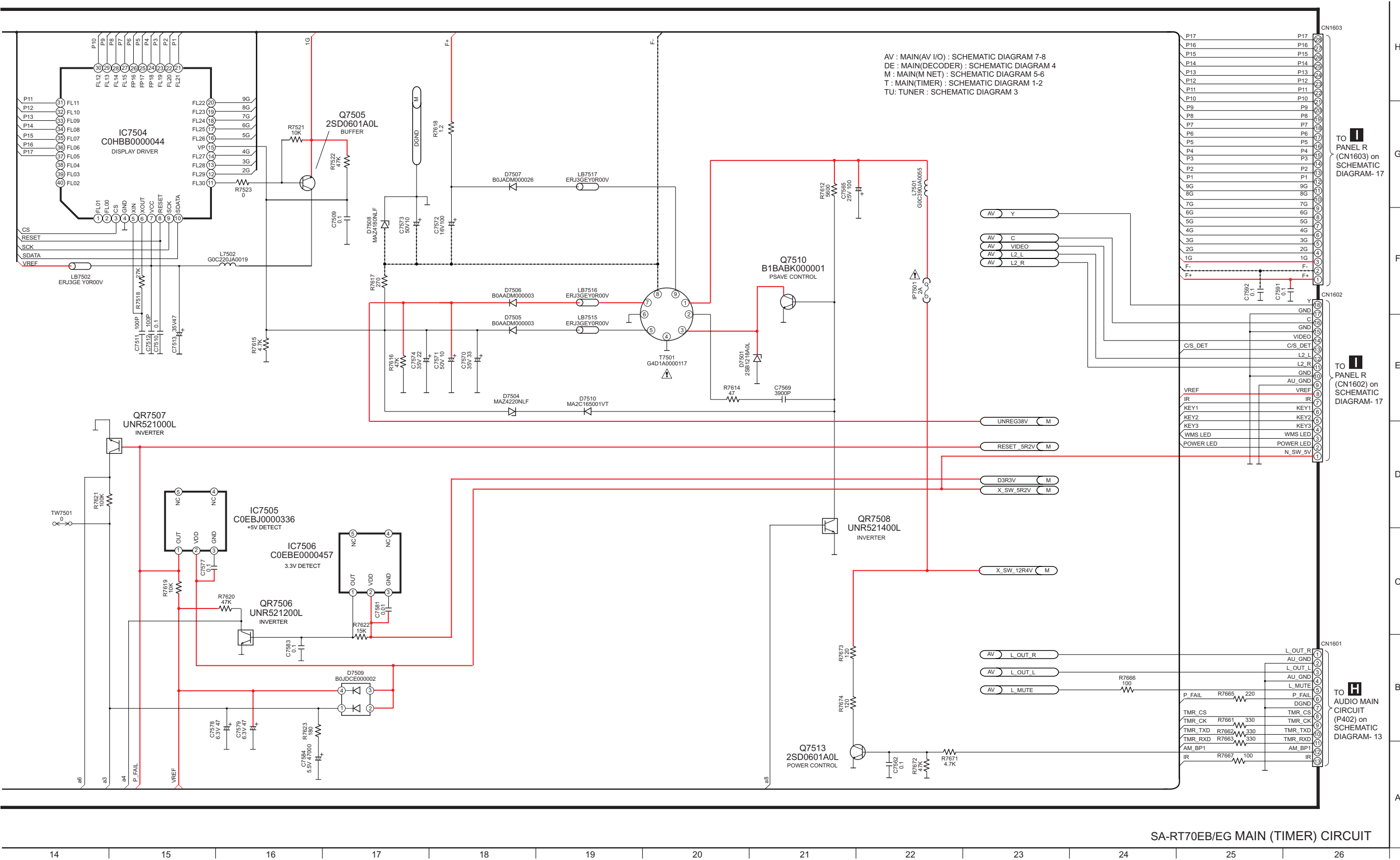


SA-RT70EB/EG MAIN (TIMER) CIRCUIT

SCHEMATIC DIAGRAM-2

A MAIN (TIMER) CIRCUIT

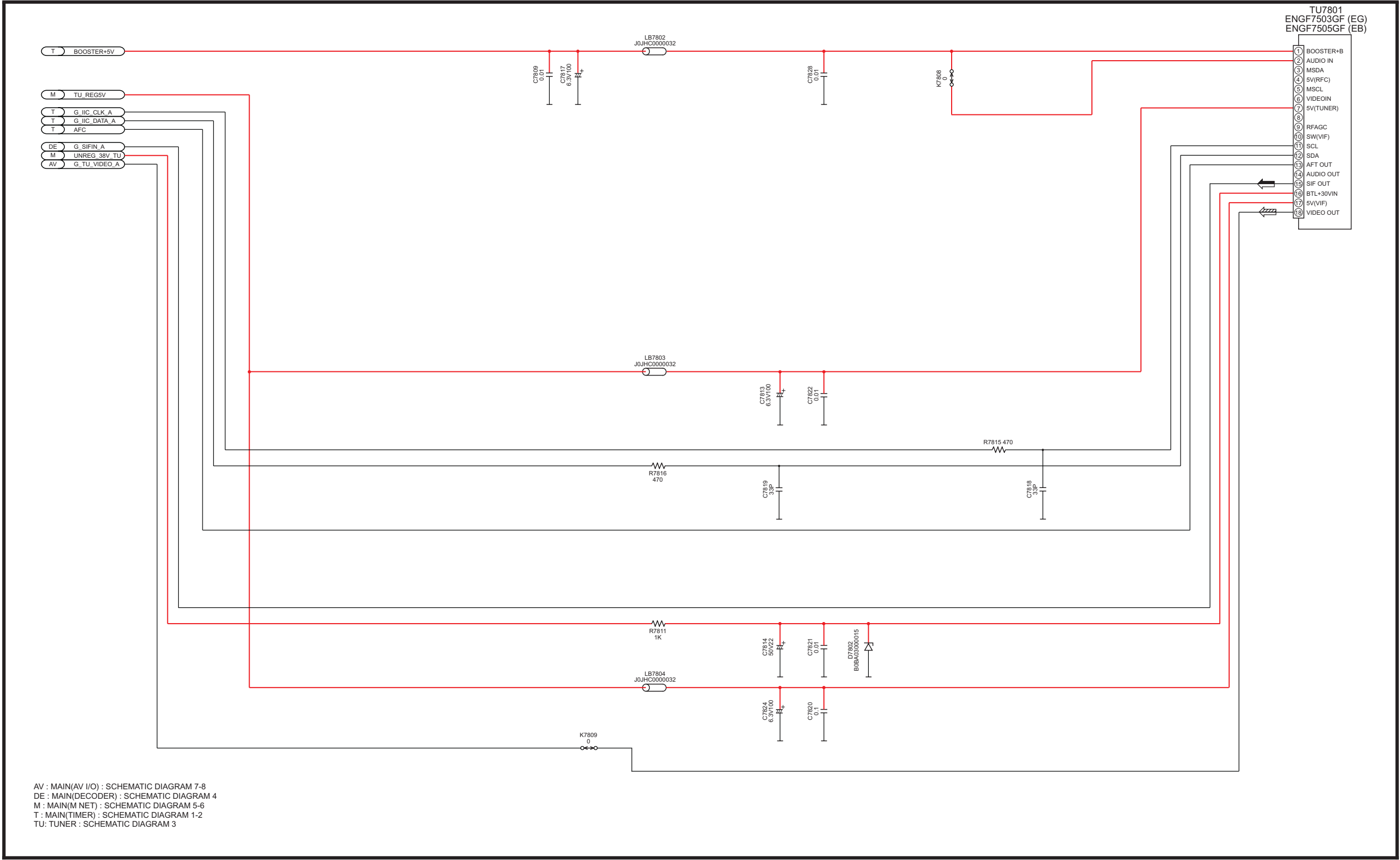
— :+B SIGNAL LINE
--- :-B SIGNAL LINE



SCHEMATIC DIAGRAM-3

A TUNER CIRCUIT

— :+B SIGNAL LINE ⇨ : MAIN SIGNAL LINE ⇨ : FM /AM SIGNAL LINE

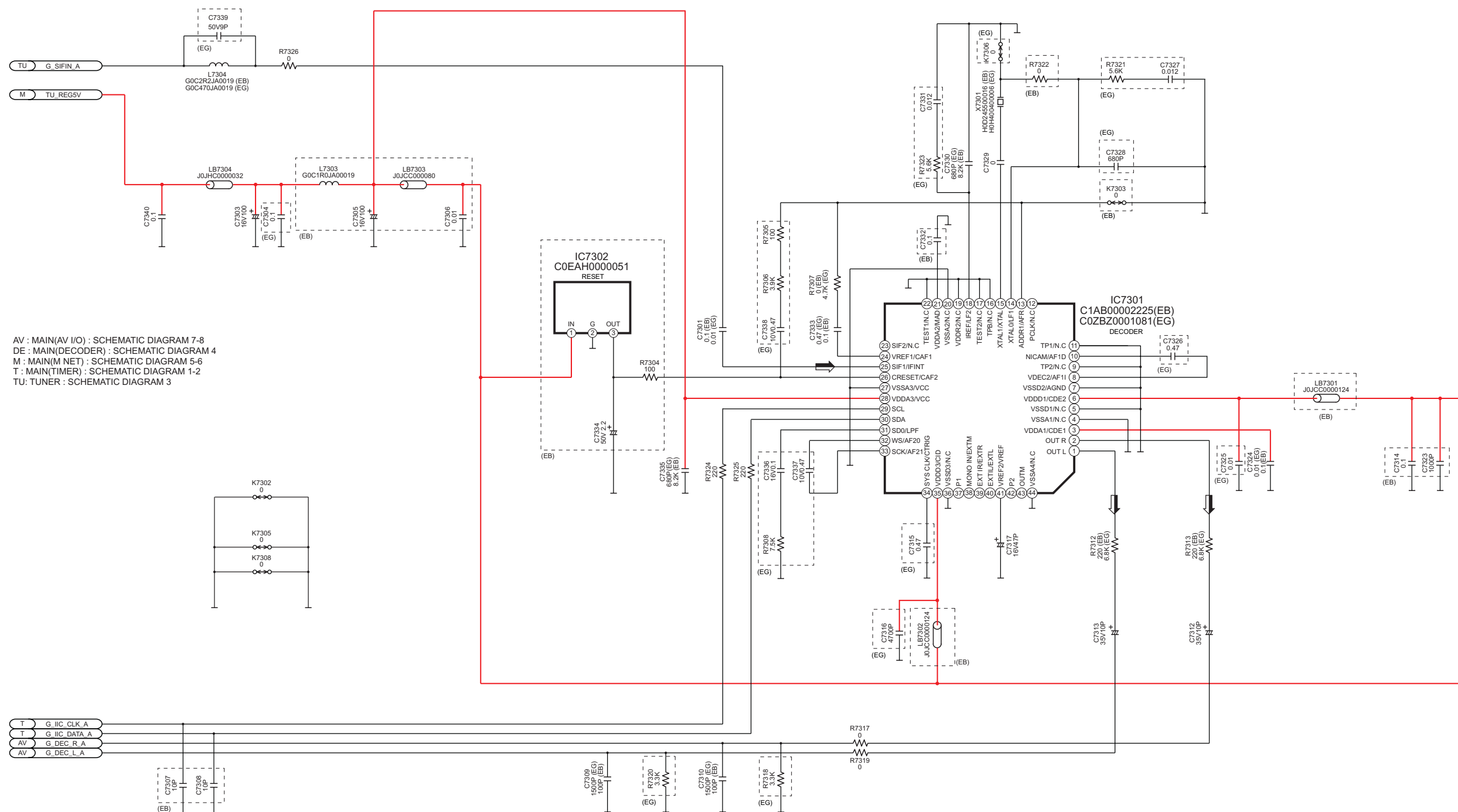


SA-RT70EB/EG TUNER CIRCUIT

SCHEMATIC DIAGRAM-4

A MAIN (DECODER) CIRCUIT

— :+B SIGNAL LINE ➡ : FM/AM SIGNAL LINE



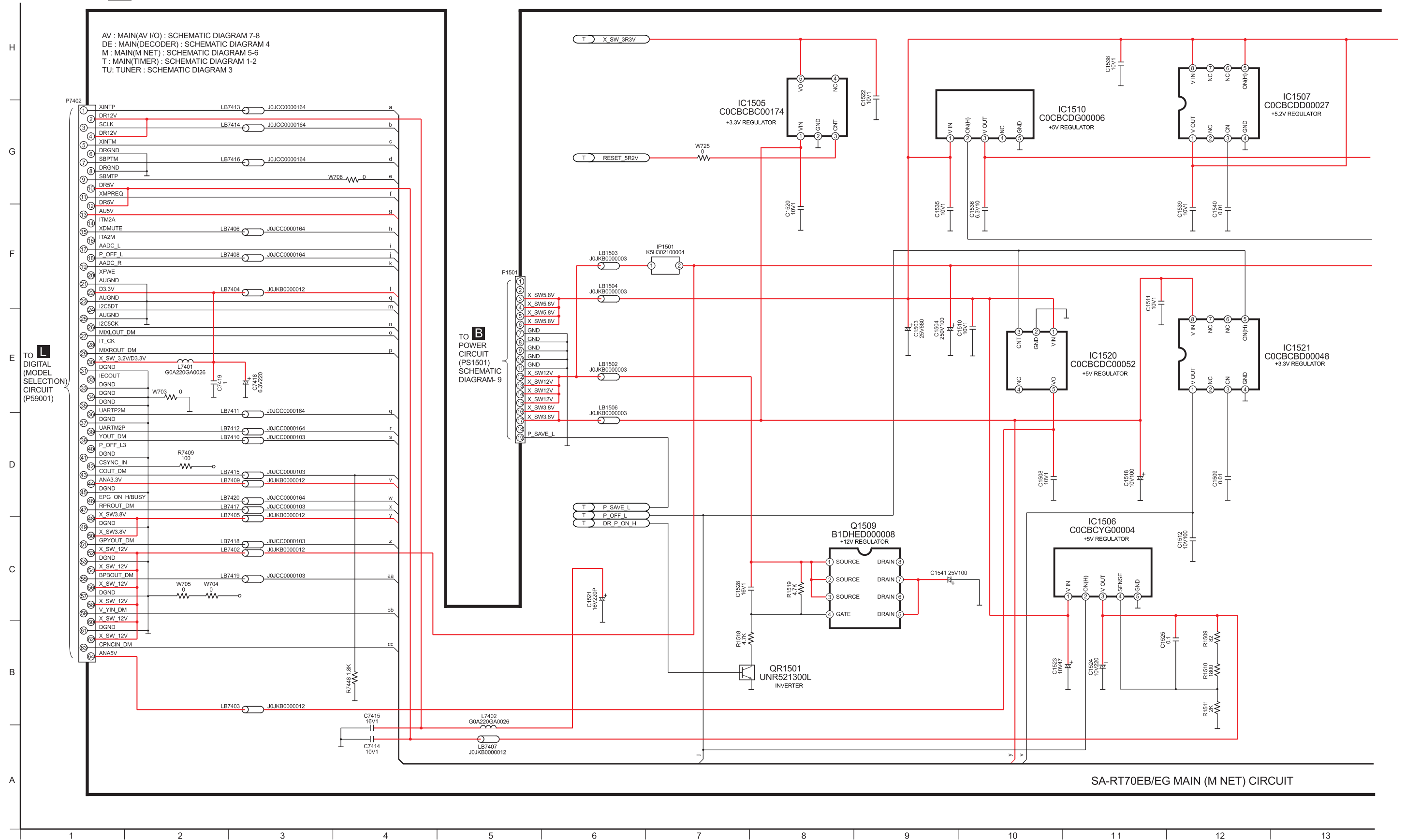
SA-RT70EB/EG MAIN (DECODER) CIRCUIT

SCHEMATIC DIAGRAM-5

A MAIN (M NET) CIRCUIT

— :+B SIGNAL LINE

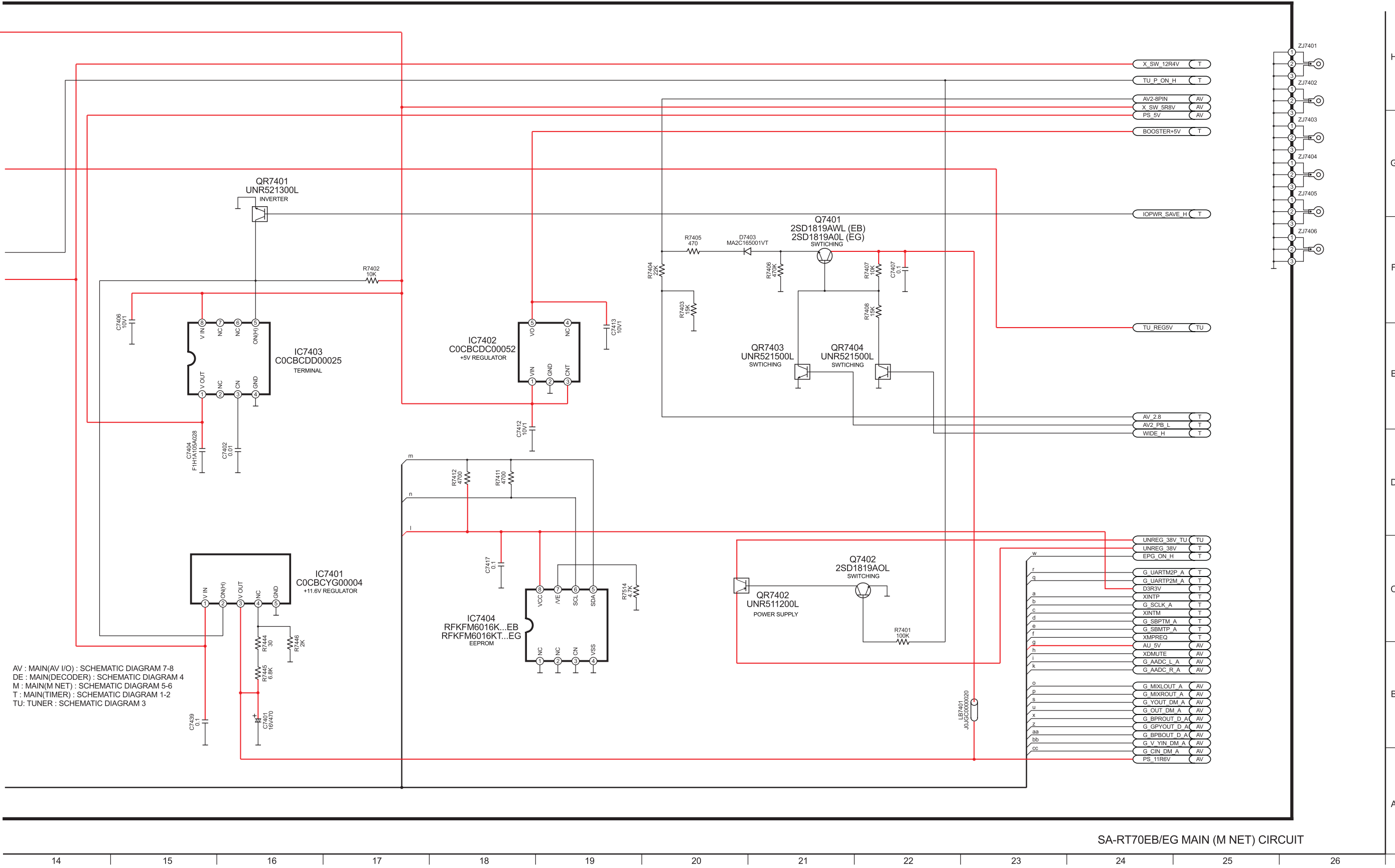
AV : MAIN(AV I/O) : SCHEMATIC DIAGRAM 7-8
DE : MAIN(DECODER) : SCHEMATIC DIAGRAM 4
M : MAIN(M NET) : SCHEMATIC DIAGRAM 5-6
T : MAIN(TIMER) : SCHEMATIC DIAGRAM 1-2
TU : TUNER : SCHEMATIC DIAGRAM 3



SCHEMATIC DIAGRAM-6

A MAIN (M NET) CIRCUIT

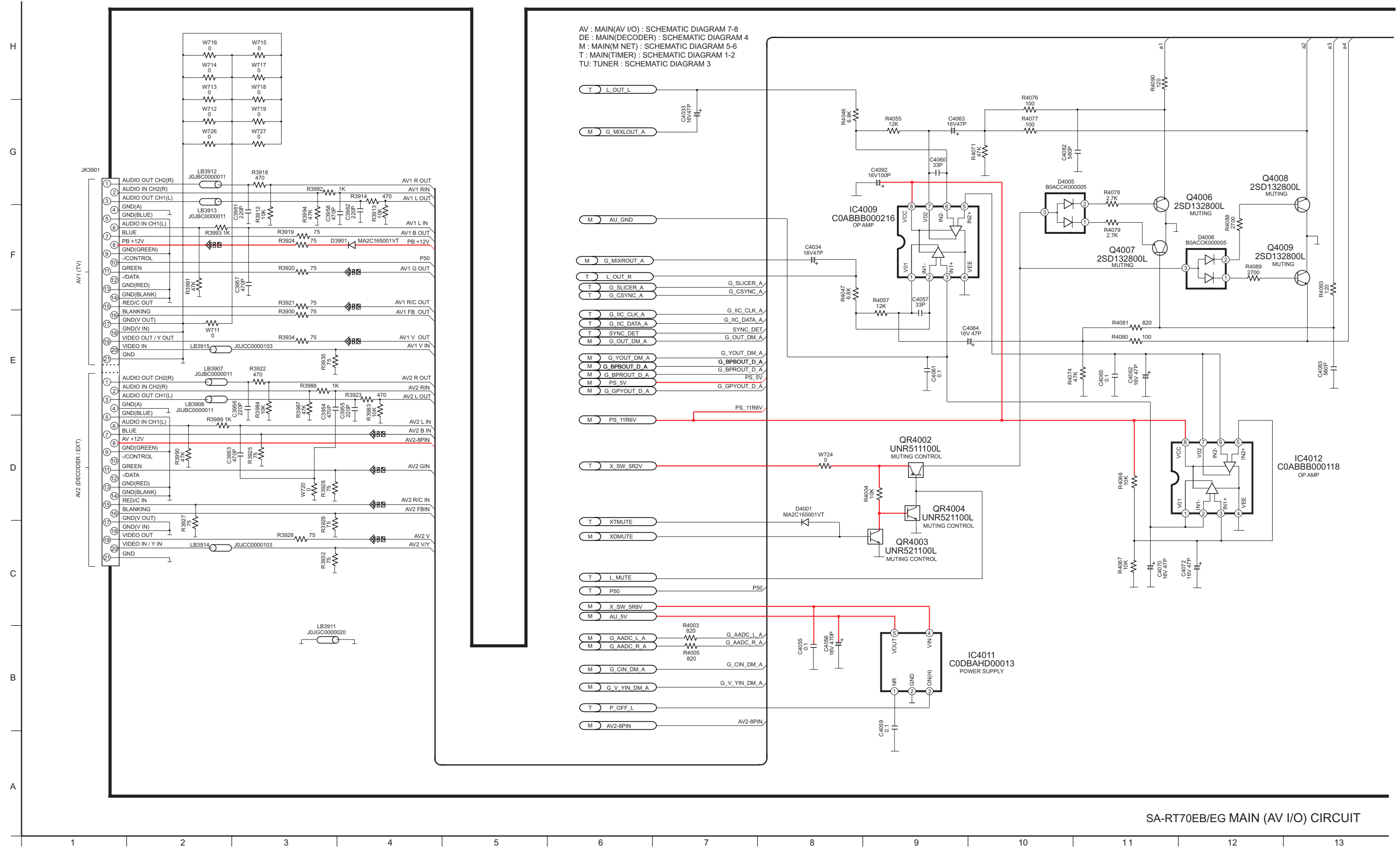
— :+B SIGNAL LINE



SCHEMATIC DIAGRAM-7

A MAIN (AV I/O) CIRCUIT

— : +B SIGNAL LINE : DVD VIDEO SIGNAL LINE

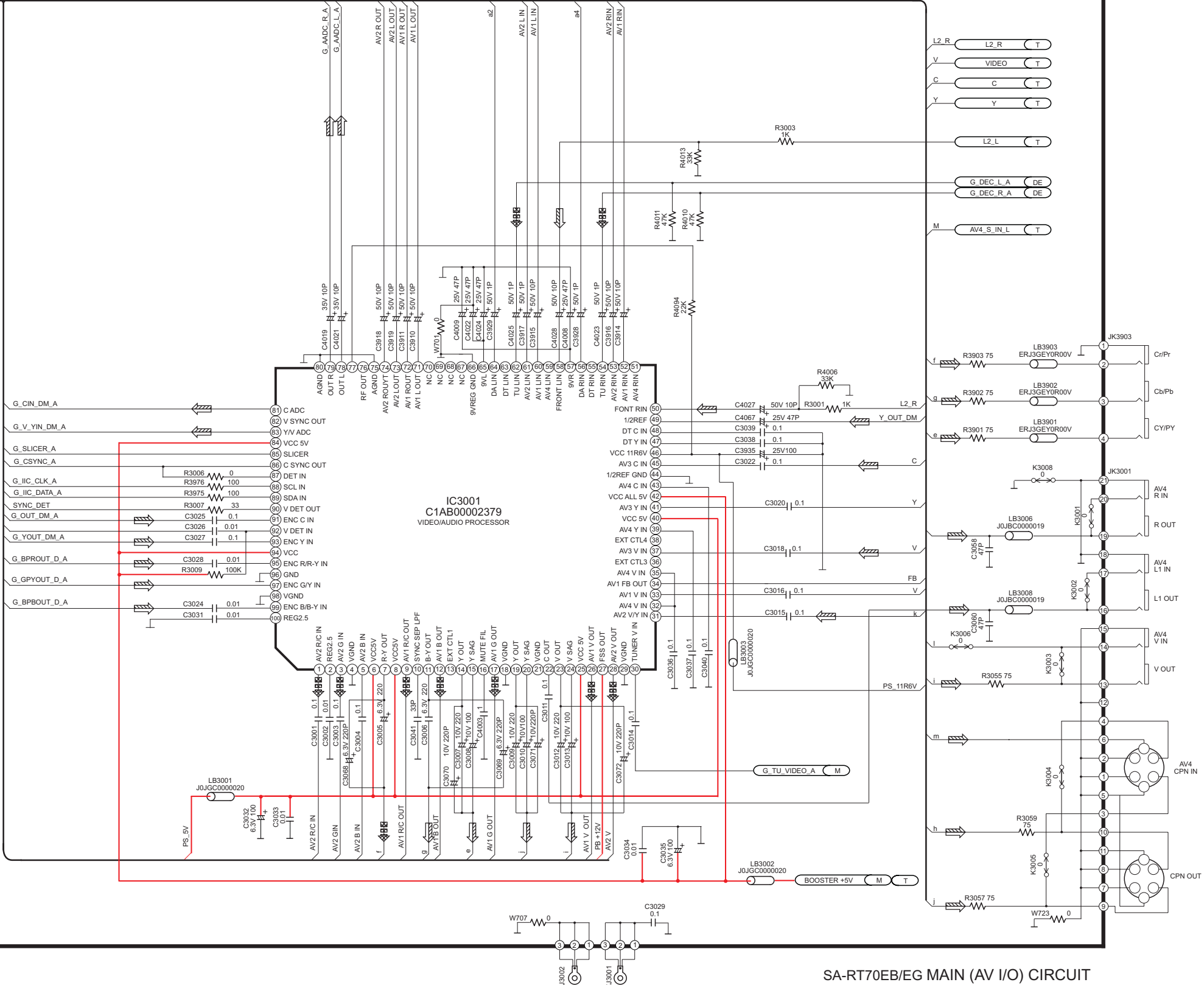


SCHEMATIC DIAGRAM-8

A MAIN (AV I/O) CIRCUIT

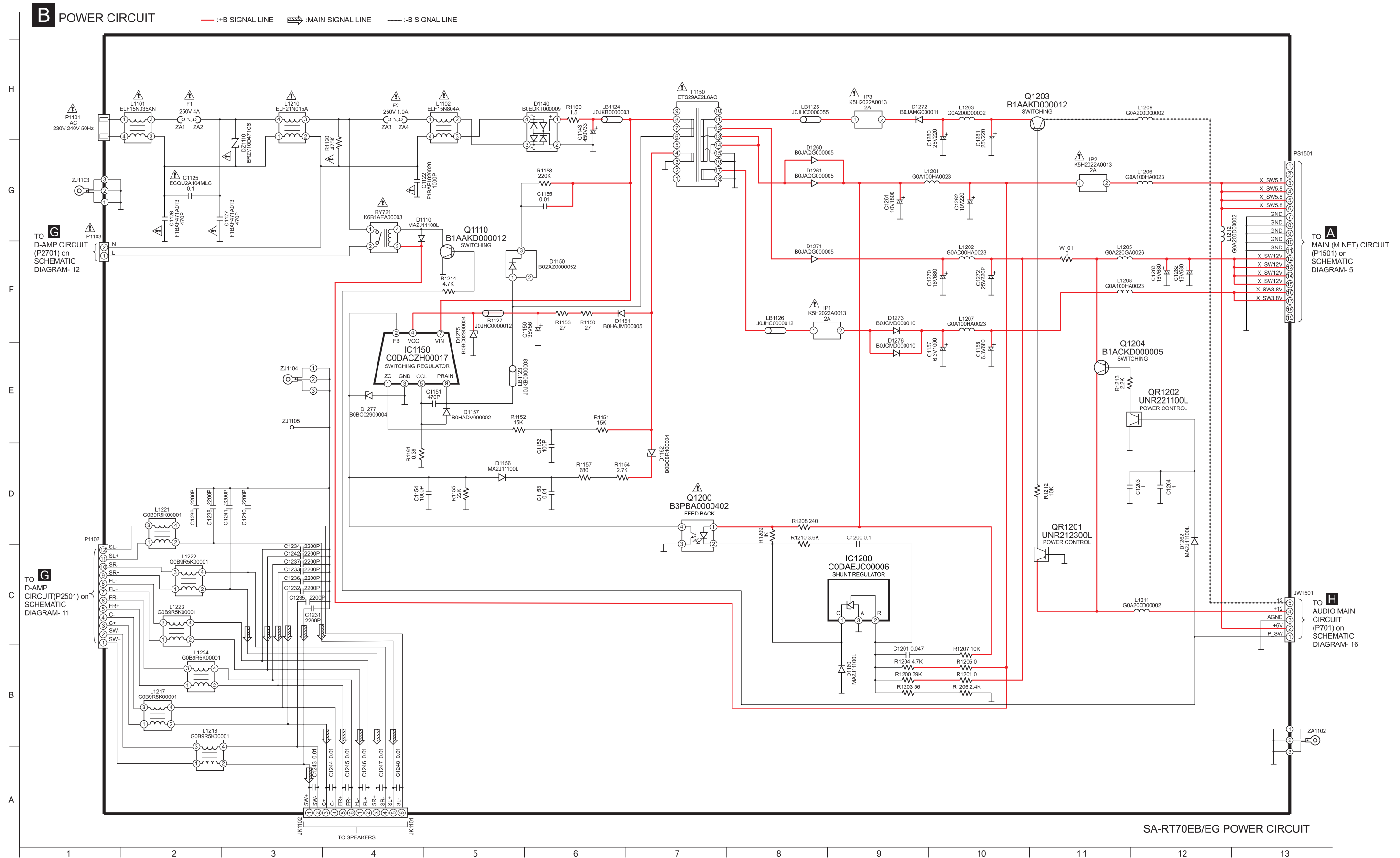
— :+B SIGNAL LINE ⇨ : MAIN SIGNAL LINE ⇨ : FM /AM SIGNAL LINE DVD VIDEO SIGNAL LINE

AV : MAIN(AV I/O) : SCHEMATIC DIAGRAM 7-8
DE : MAIN(DECODER) : SCHEMATIC DIAGRAM 4
M : MAIN(M NET) : SCHEMATIC DIAGRAM 5-6
T : MAIN(TIMER) : SCHEMATIC DIAGRAM 1-2
TU : TUNER : SCHEMATIC DIAGRAM 3



19.2. Power Circuit

SCHEMATIC DIAGRAM-9

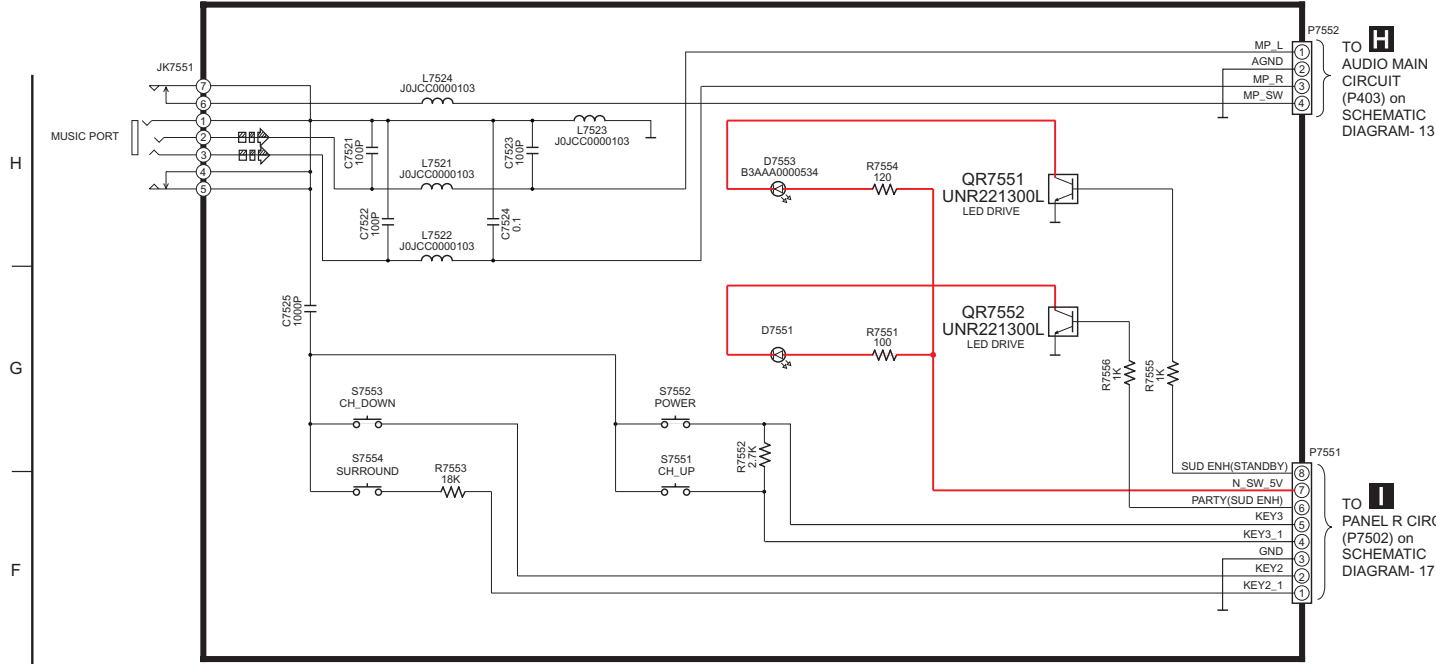


19.3. Volume Circuit, Tuner Extent Circuit, DV Circuit and Panel L Circuit

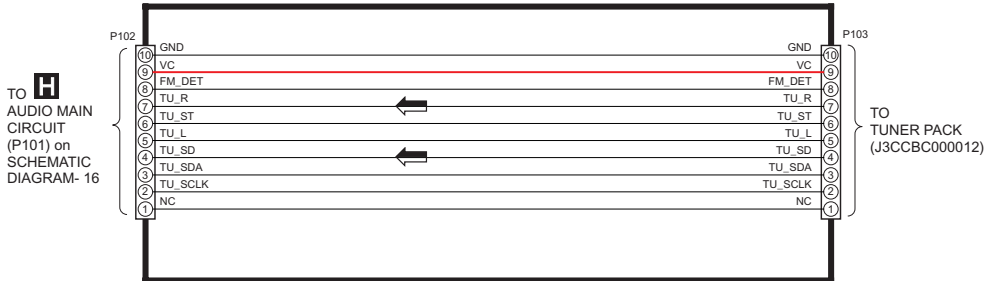
SCHEMATIC DIAGRAM-10

F PANEL L CIRCUIT

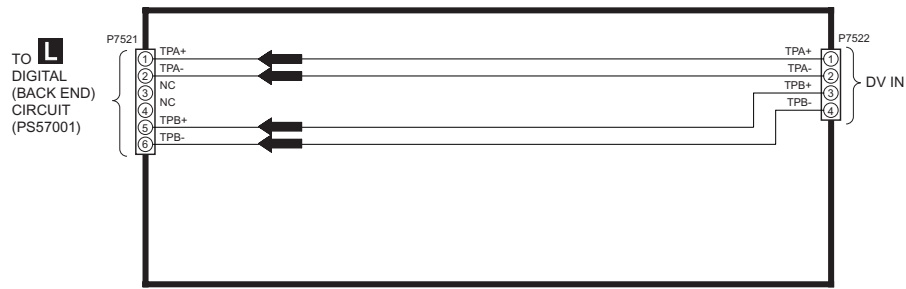
— : +B SIGNAL LINE ⇨ : MAIN SIGNAL LINE ⇨ : MUSIC PORT SIGNAL LINE ⇨ : VIDEO REC SIGNAL LINE ⇨ : FM / AM SIGNAL LINE



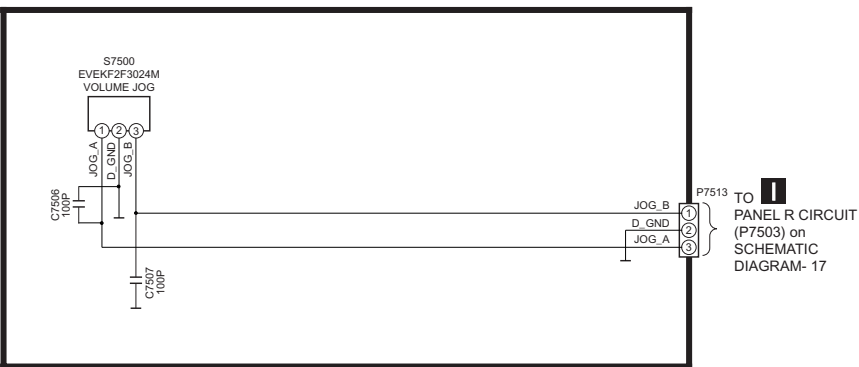
D TUNER EXTENT CIRCUIT



E DV CIRCUIT

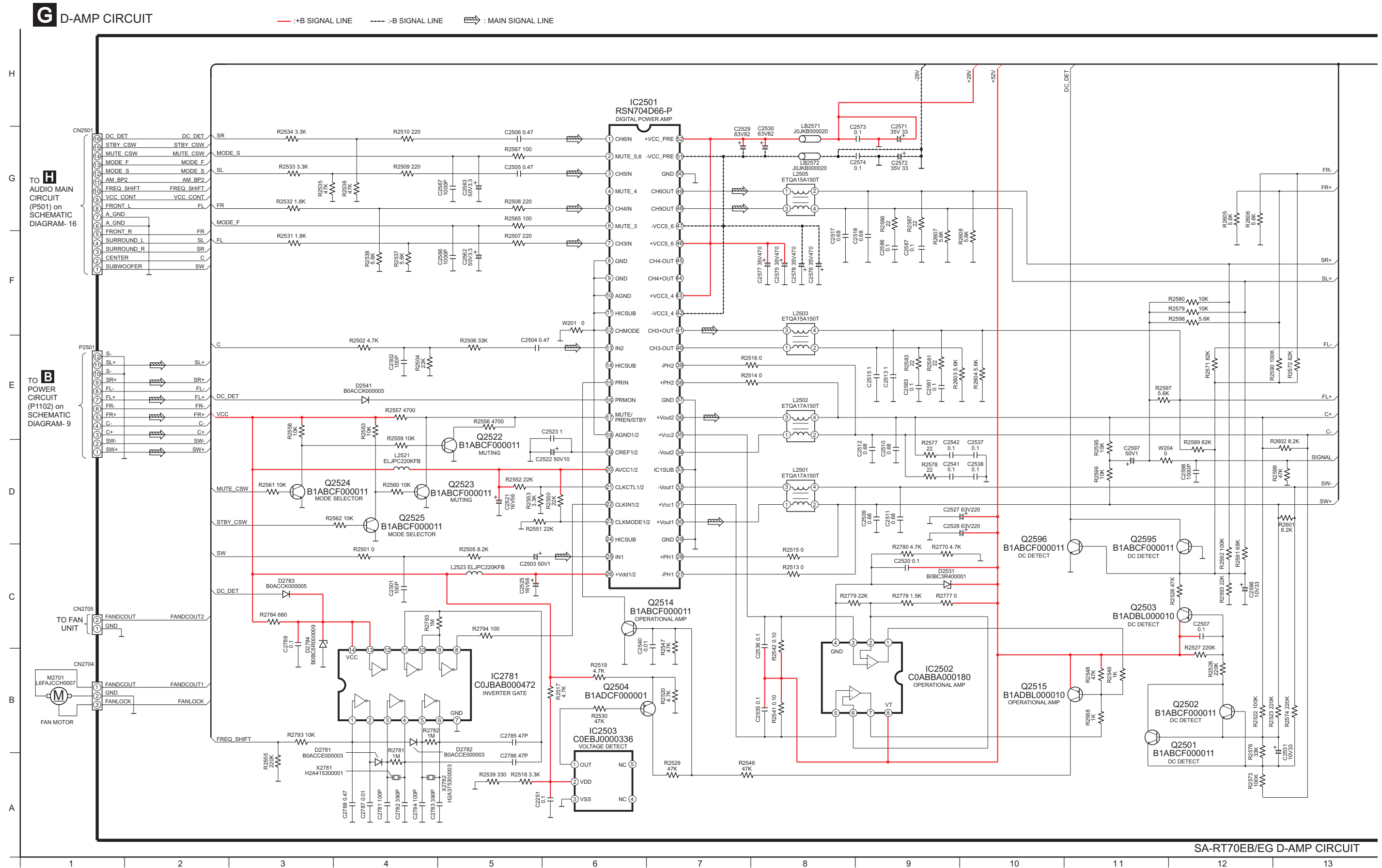


C VOLUME CIRCUIT



19.4. D-AMP Circuit

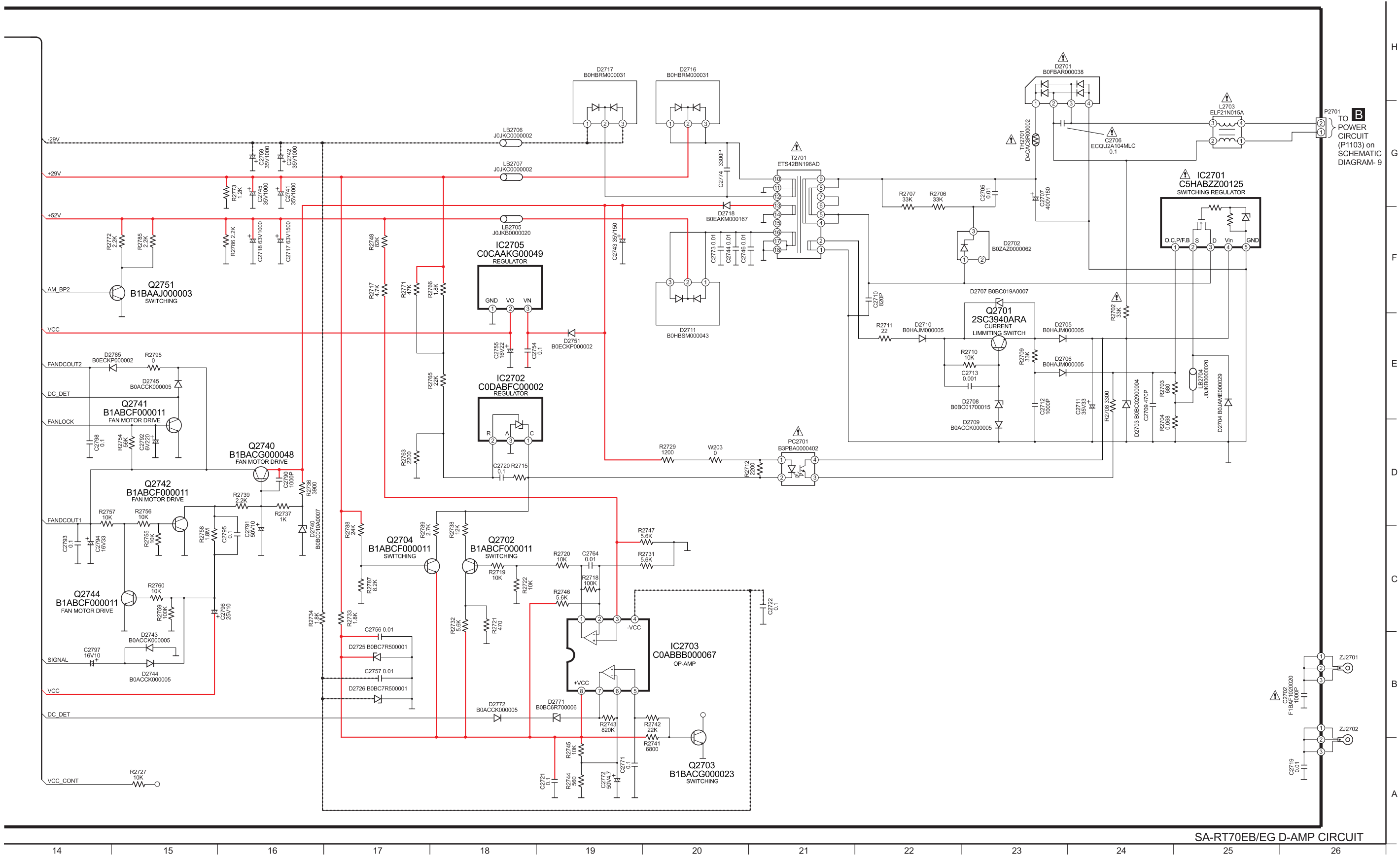
SCHEMATIC DIAGRAM-11



SCHEMATIC DIAGRAM-12

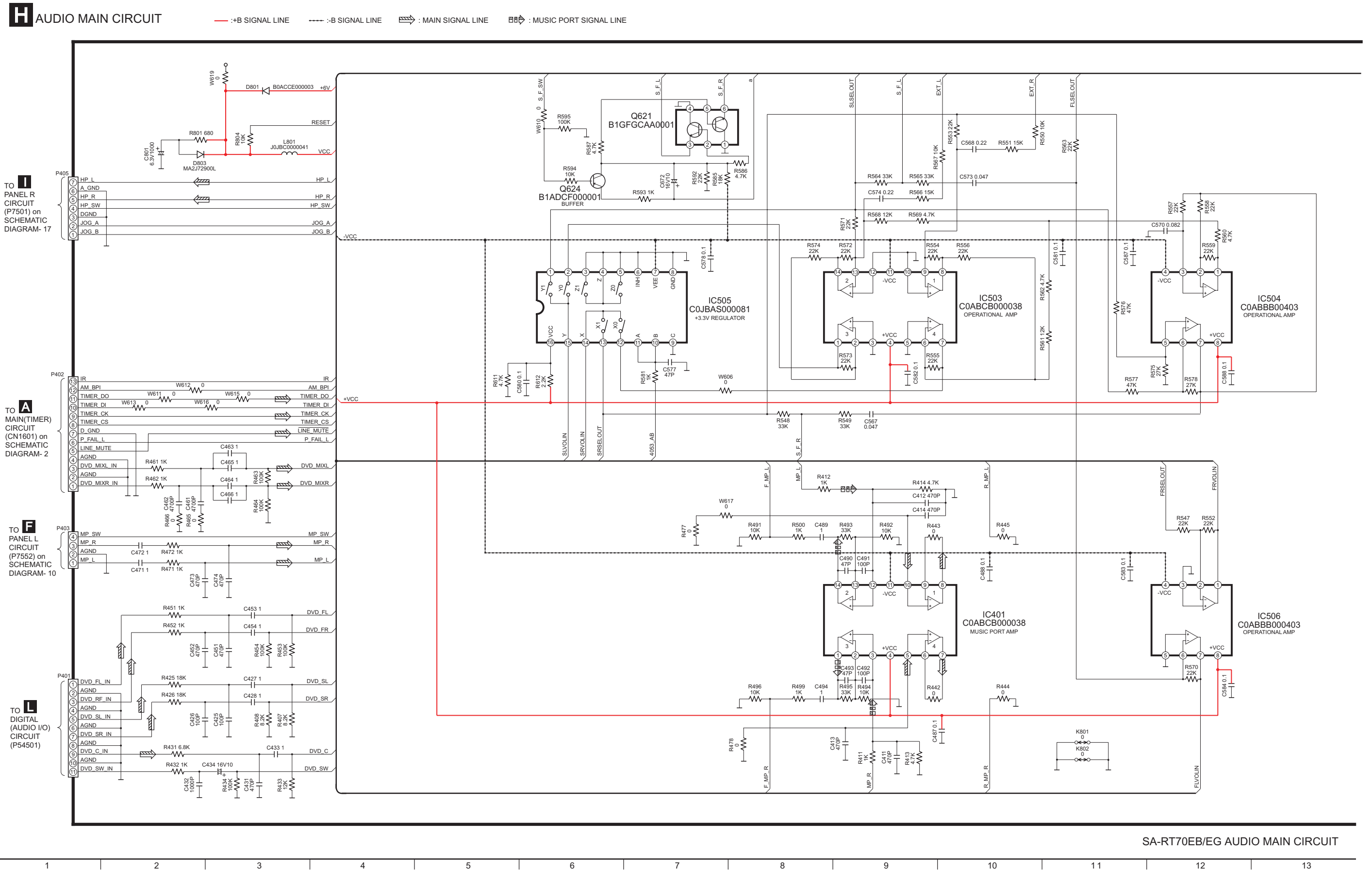
D-AMP CIRCUIT

— :+B SIGNAL LINE - - - :B SIGNAL LINE



19.5. Audio Main Circuit

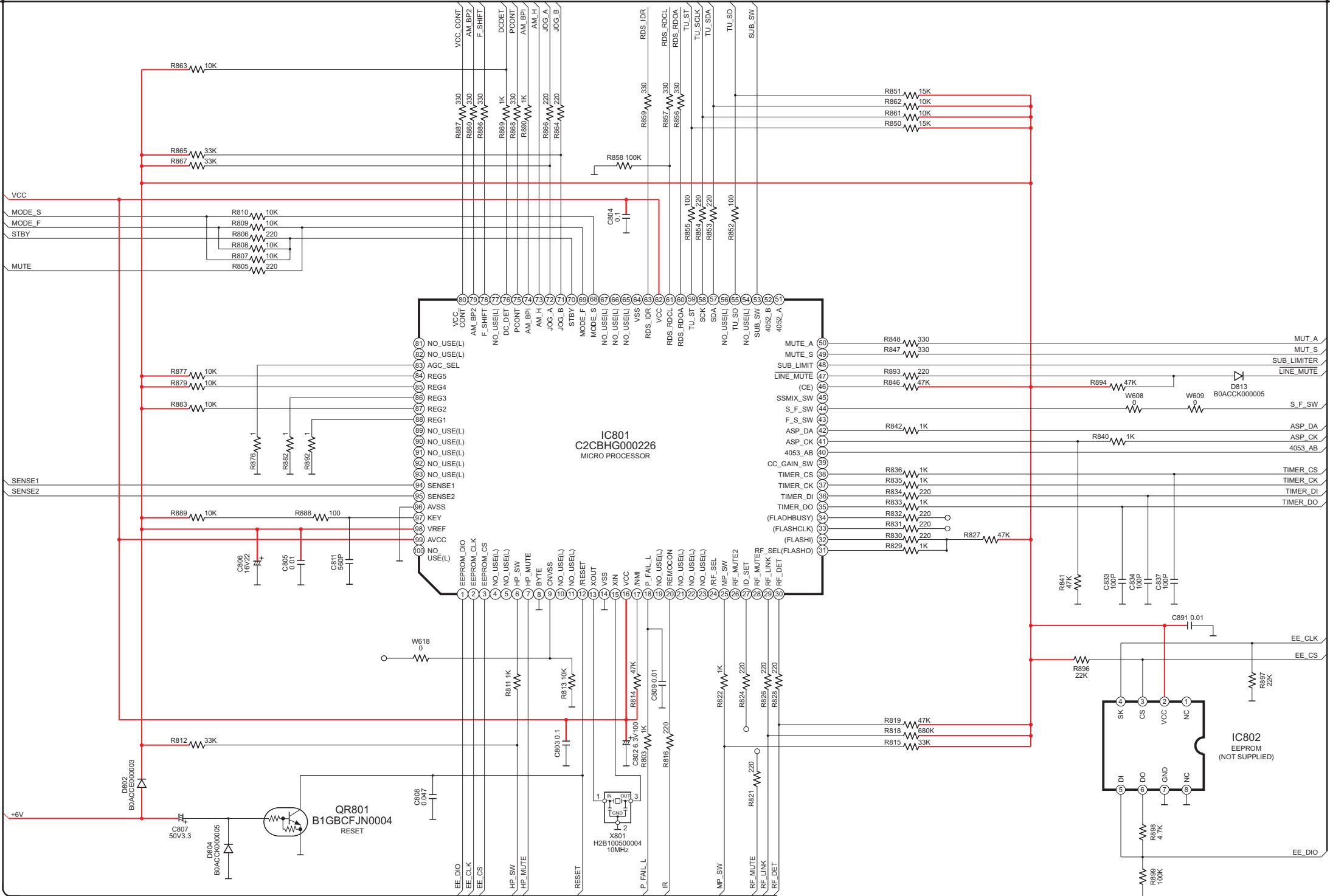
SCHEMATIC DIAGRAM-13



SCHEMATIC DIAGRAM-14

H AUDIO MAIN CIRCUIT

— +B SIGNAL LINE

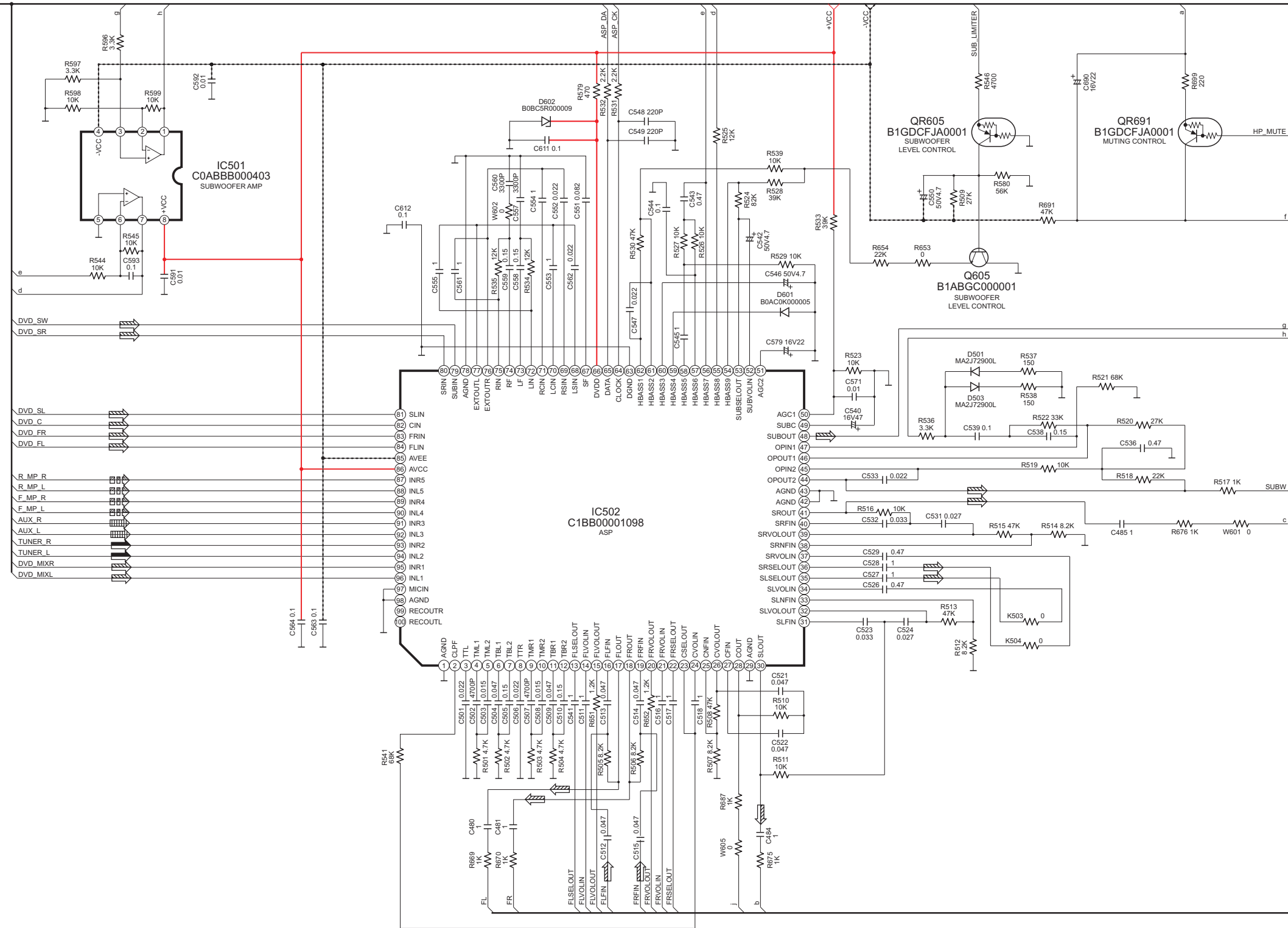


SA-RT70EB/EG AUDIO MAIN CIRCUIT

SCHEMATIC DIAGRAM-15

AUDIO MAIN CIRCUIT

 : +B SIGNAL LINE
  : -B SIGNAL LINE
  : MAIN SIGNAL LINE
  : AUX SIGNAL LINE
  : FM / AM SIGNAL LINE
  : MUSIC PORT SIGNAL LINE

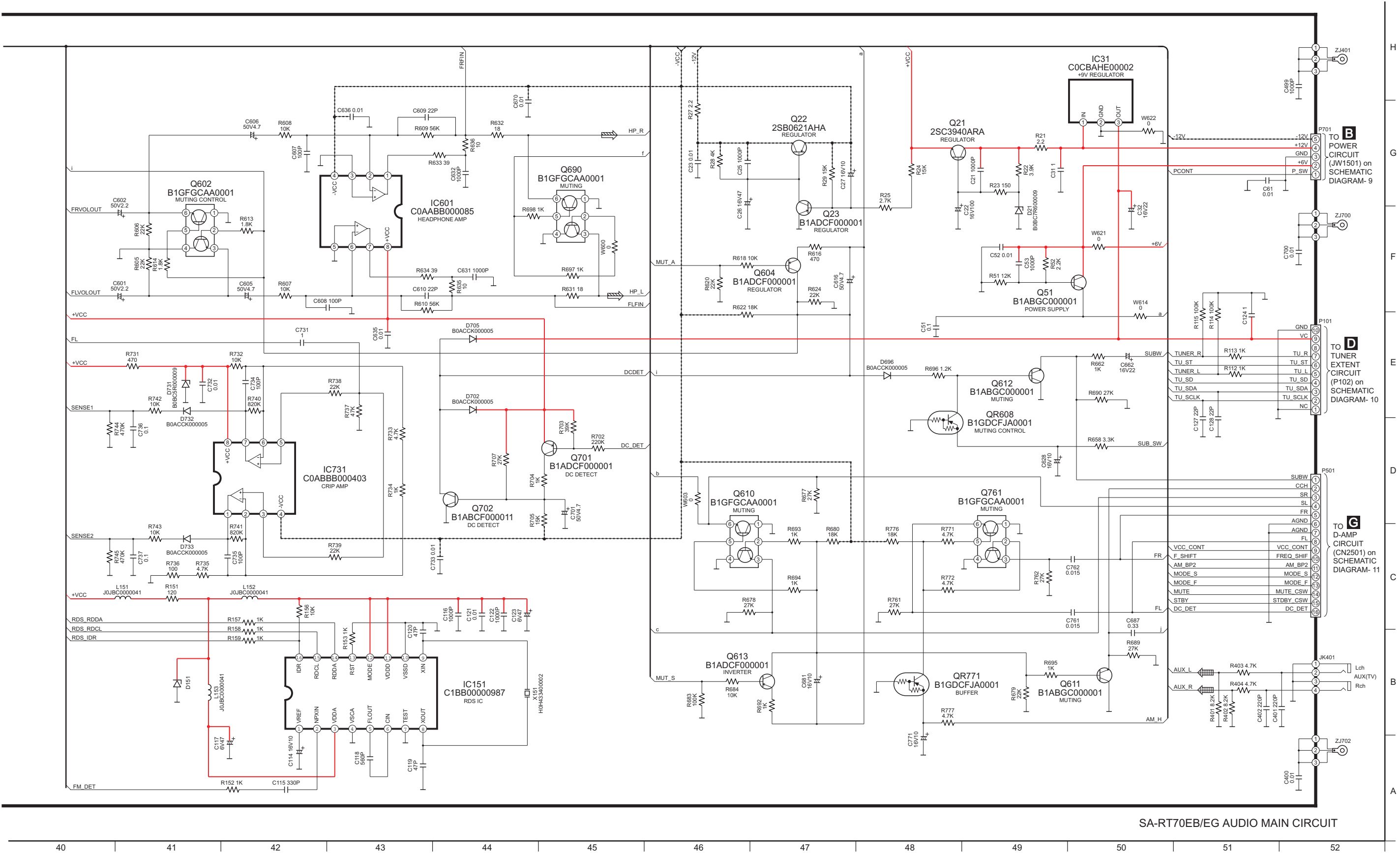


SA-RT70EB/EG AUDIO MAIN CIRCUIT

SCHEMATIC DIAGRAM-16

H AUDIO MAIN CIRCUIT

— : +B SIGNAL LINE - - - : -B SIGNAL LINE  : AUX SIGNAL LINE  : MAIN SIGNAL LINE

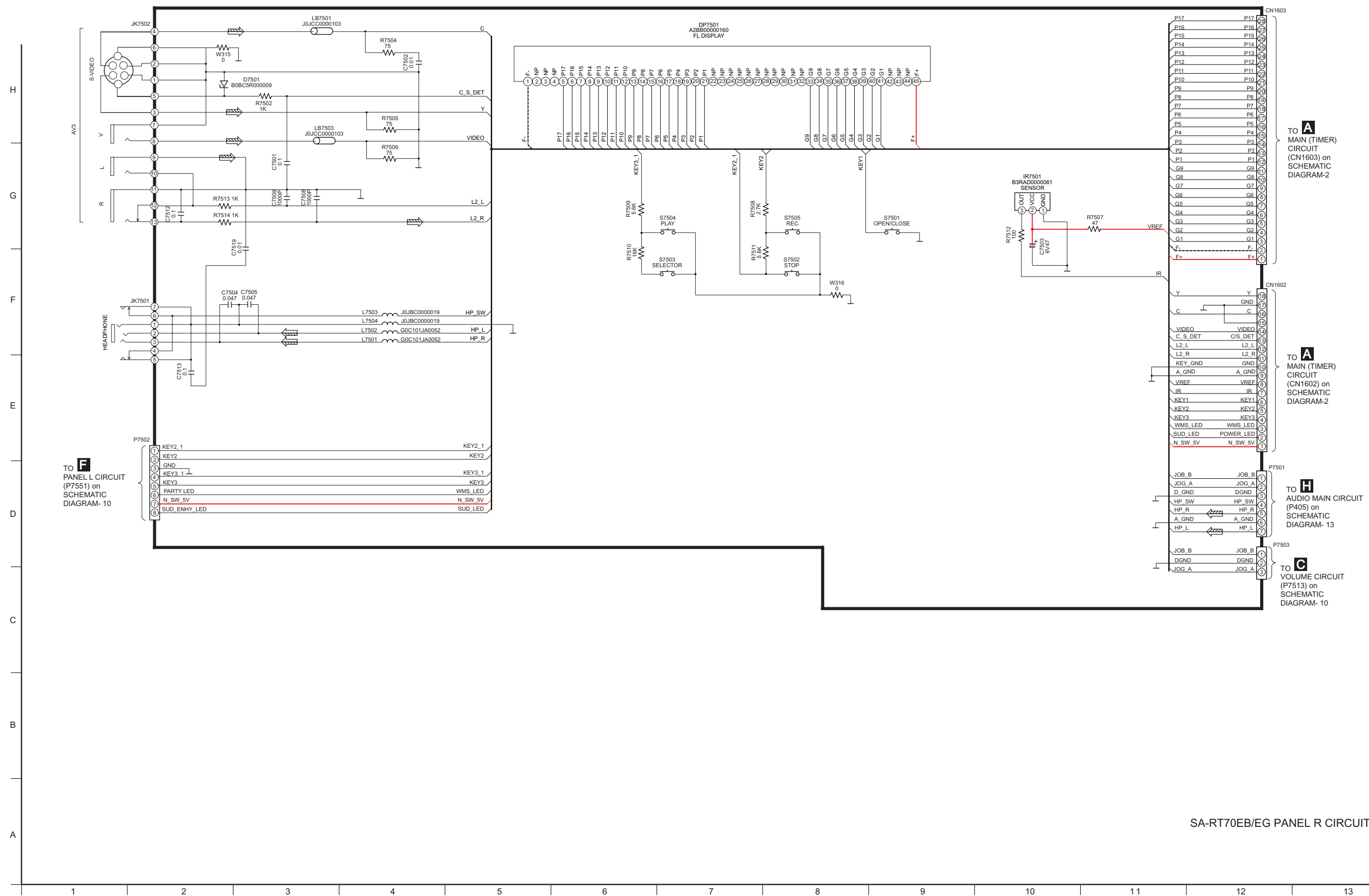


19.6. Panel R Circuit

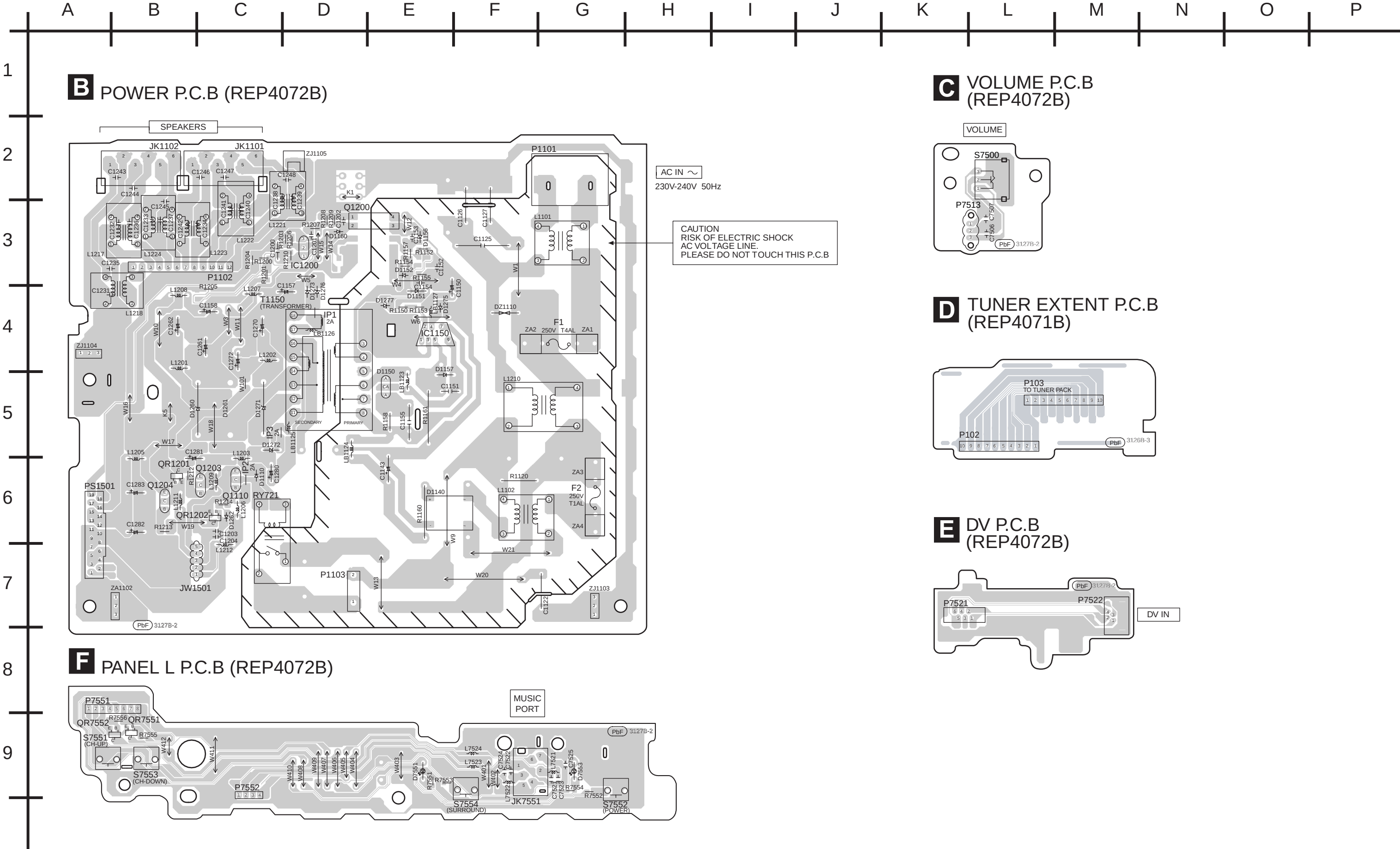
SCHEMATIC DIAGRAM-17

PANEL R CIRCUIT

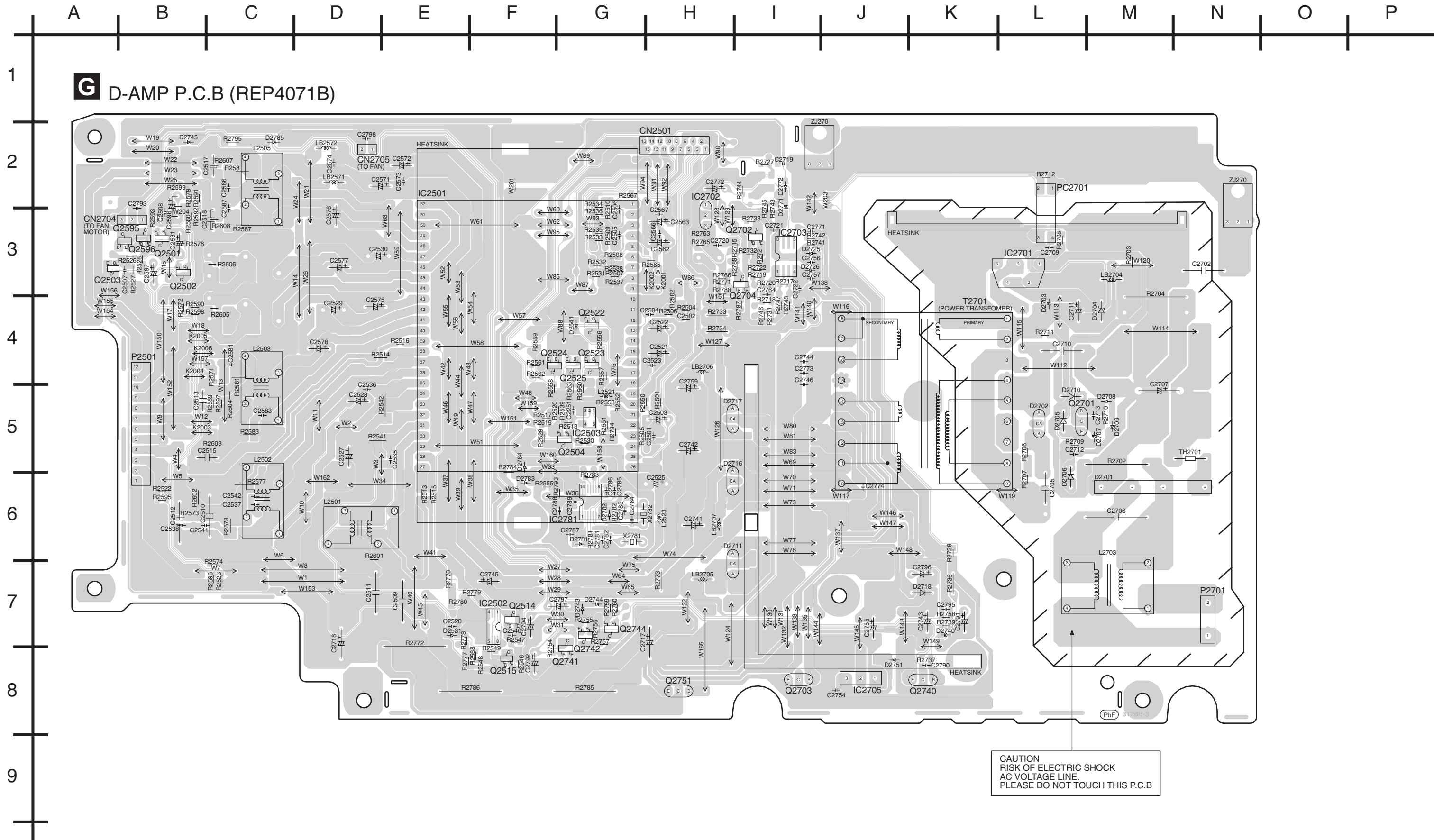
— :+B SIGNAL LINE - - - - - :-B SIGNAL LINE  : MAIN SIGNAL LINE



20.2. Power P.C.B, Volume P.C.B, Tuner Extent P.C.B, DV P.C.B and Panel L P.C.B

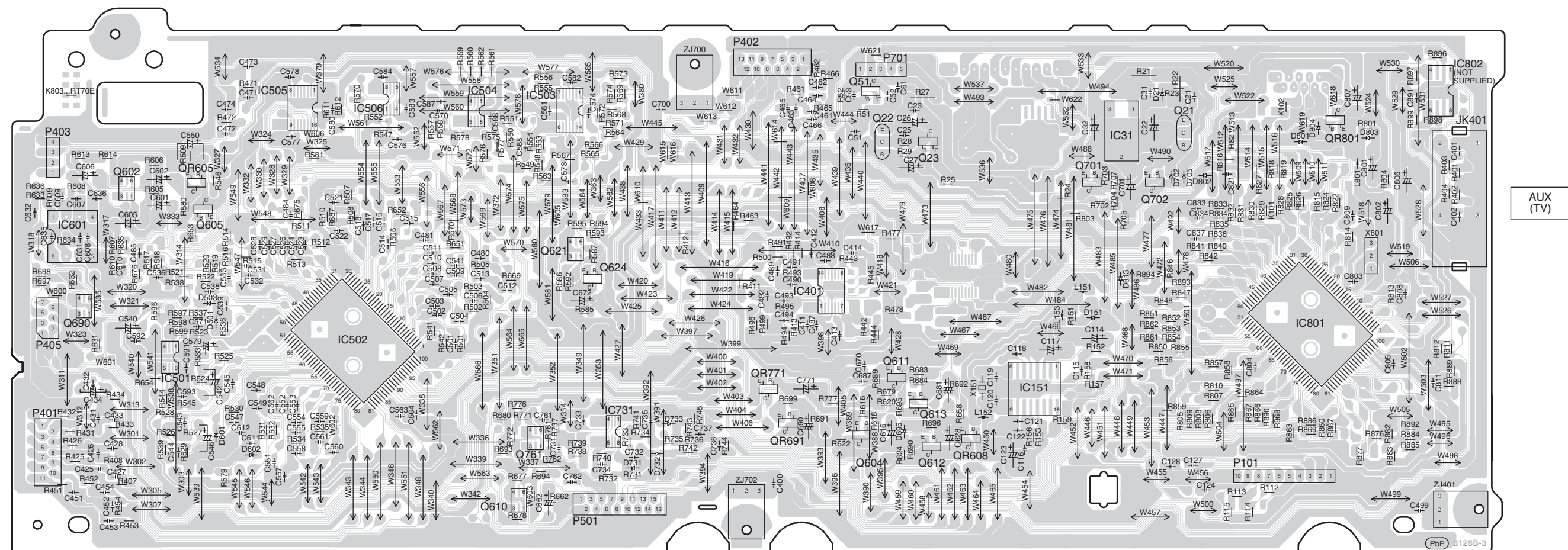


20.3. D-AMP P.C.B

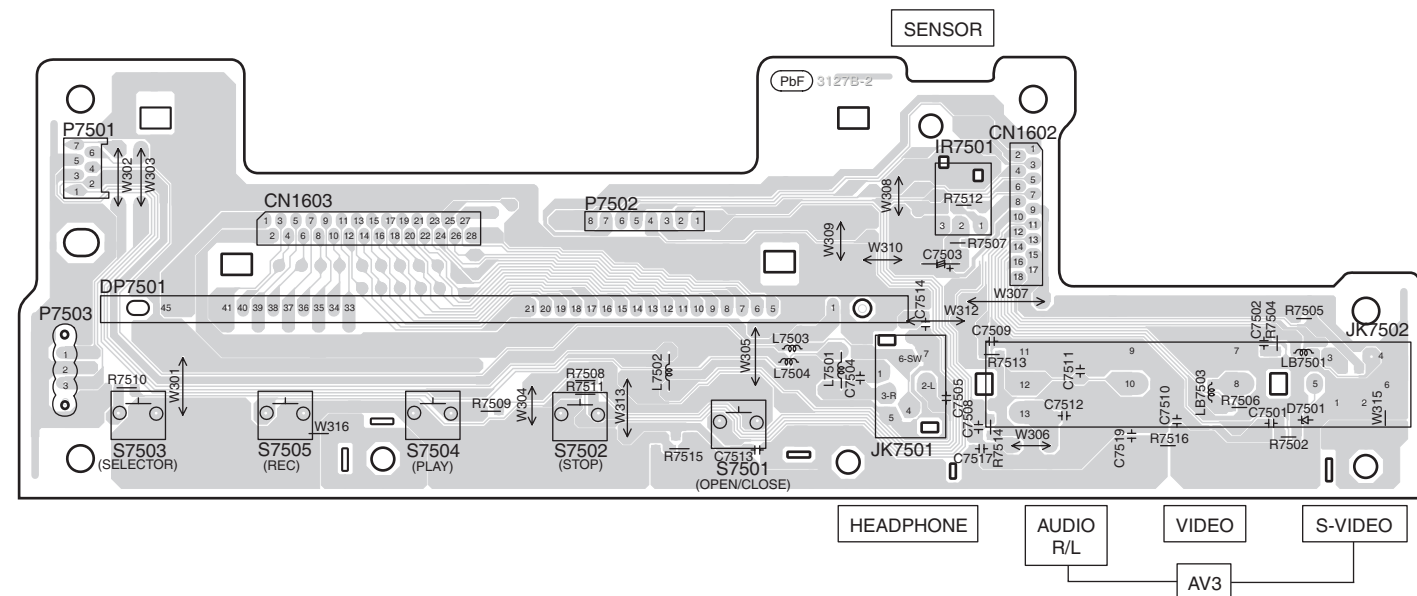


20.4. Audio Main P.C.B and Panel R P.C.B

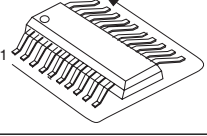
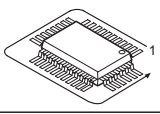
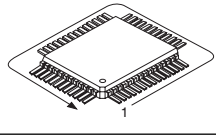
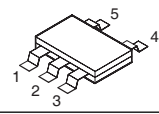
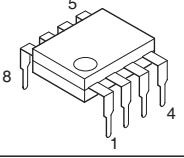
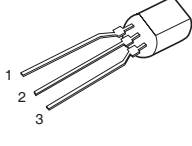
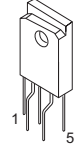
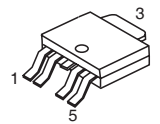
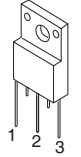
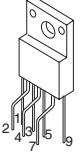
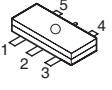
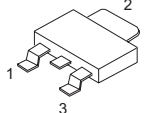
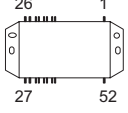
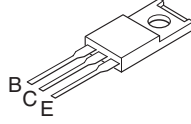
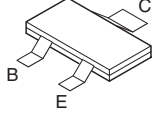
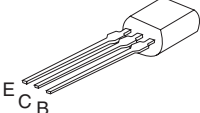
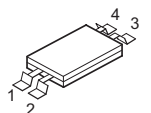
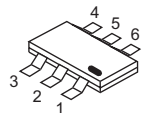
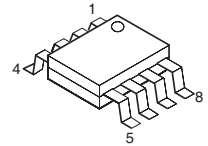
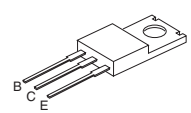
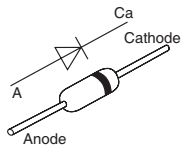
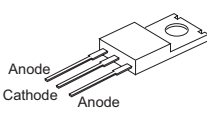
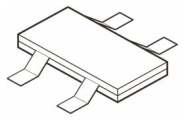
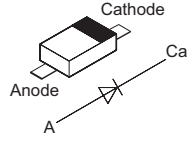
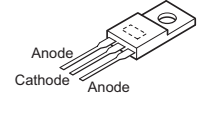
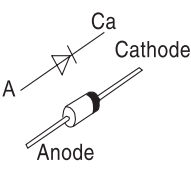
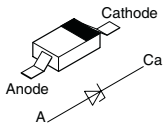
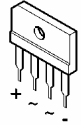
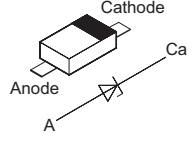
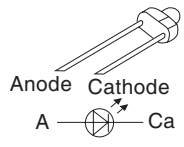
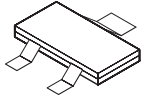
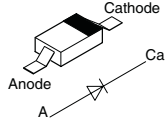
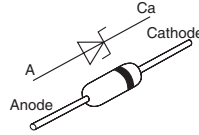
AUDIO MAIN P.C.B (REP4071B)



I PANEL R P.C.B (REP4072B)



21 Illustration of IC's, Transistors and Diodes

C0ABBB000403 (8P) C0CBCDD00027 (8P) C0ABCB000038 (14P) C1BB00000987 (16P) C0ABBB000216 (8P) C0JBAB000472 (14P) C0ABBB000067 (8P) C0CBCBD00048 (8P) C0ABBB000118 (8P) C0CBCDD00025 (8P)	C0JBAS000081 (16P) C0ABBA000180 (8P) 	C1BB00001098 (100P) C2CBHG000226 (100P) C1AB00002379 (100P) C2CBJG000722 (100P) 	C0ZBZ0001081 (44P) C1AB00002225 (44P) C0HBB0000044 (48P) 	C0EBJ0000336 C0CBCBC00174 C0CBCDC00052 C0EBE0000504 C0EBE0000457 	C0AABB000085 
C0DAEJC00006 C0DABFC00002 C0EAH0000051 	C5HABZZ00125 	C0CBCDG00006 C0CBCYG00004 	C0CAAKG00049 	C0DACZH00017 	C0DBAHD00013 
C0CBAHE00002 	RSN704D65-P 	B1BACG000048 	B1ABGC000001 B1ADCF000001 B1ABCF000011 2SD132800L 2SD0601A0L 2SD1819A0L 2SD1819AWL B1BABK000001 UNR212300L UNR221100L	UNR521300L UNR511200L UNR521500L UNR521200L UNR521000L UNR521400L UNR221300L UNR511100L B1GDCFJA0001 B1GBCFJN0004	2SB1218A0L B1ADBL000010 UNR521100L 
B1AAKD000012 B1ACKD000005 2SC3940ARA 2SB0621AHA 	B3PBA0000402 	B1GFGCAA0001 	B1DHED000008 	B1BACG000023 	B1BAAJ000003 
MA2C165001VT B0AADM000003 	B0HBSM000043 B0HBRM000031 	B0EDKT000009 B0JDCE000002 	B0ACCK000005 B0ACCE000003 MA2J11100L B0BC8R100004 B0JAQG000005 B0JCMD000010 B0BC02900004 MA2J72900L	Cathode Anode A 	B0ZAZ0000052 
B0HAJM000005 B0JAME000029 B0JAMG000011 B0EAKM000157 B0JAMD000026 B0HADV000002 	B0BC7R600009 B0BC3R400001 	B0FBAR000038 	B0BC019A0007 B0BC01700015 B0BC7R500001 B0BC010A0007 B0BC5R000009 B0BC6R700006	Cathode Anode A 	
B3AAA0000534 B3ABA0000397 	MA3Z142D0LG 	B0ECKP000002 	MAZ4180NHF MAZ4220NLF B0BA03600021 B0BA03000015	Cathode Anode A 	

22 Terminal Function of IC's

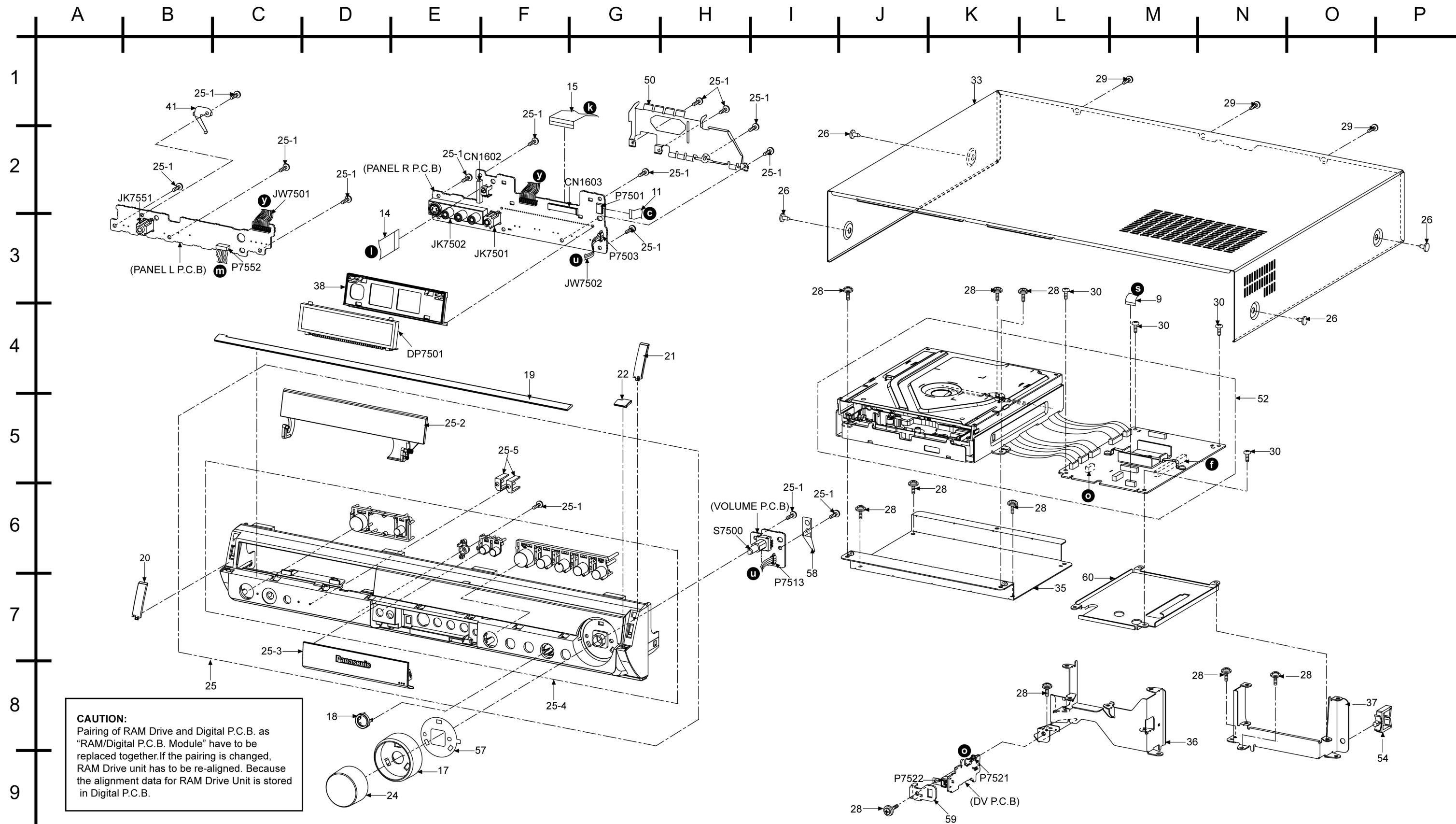
22.1. IC801 (C2CBHG000226) MICRO PROCESSOR

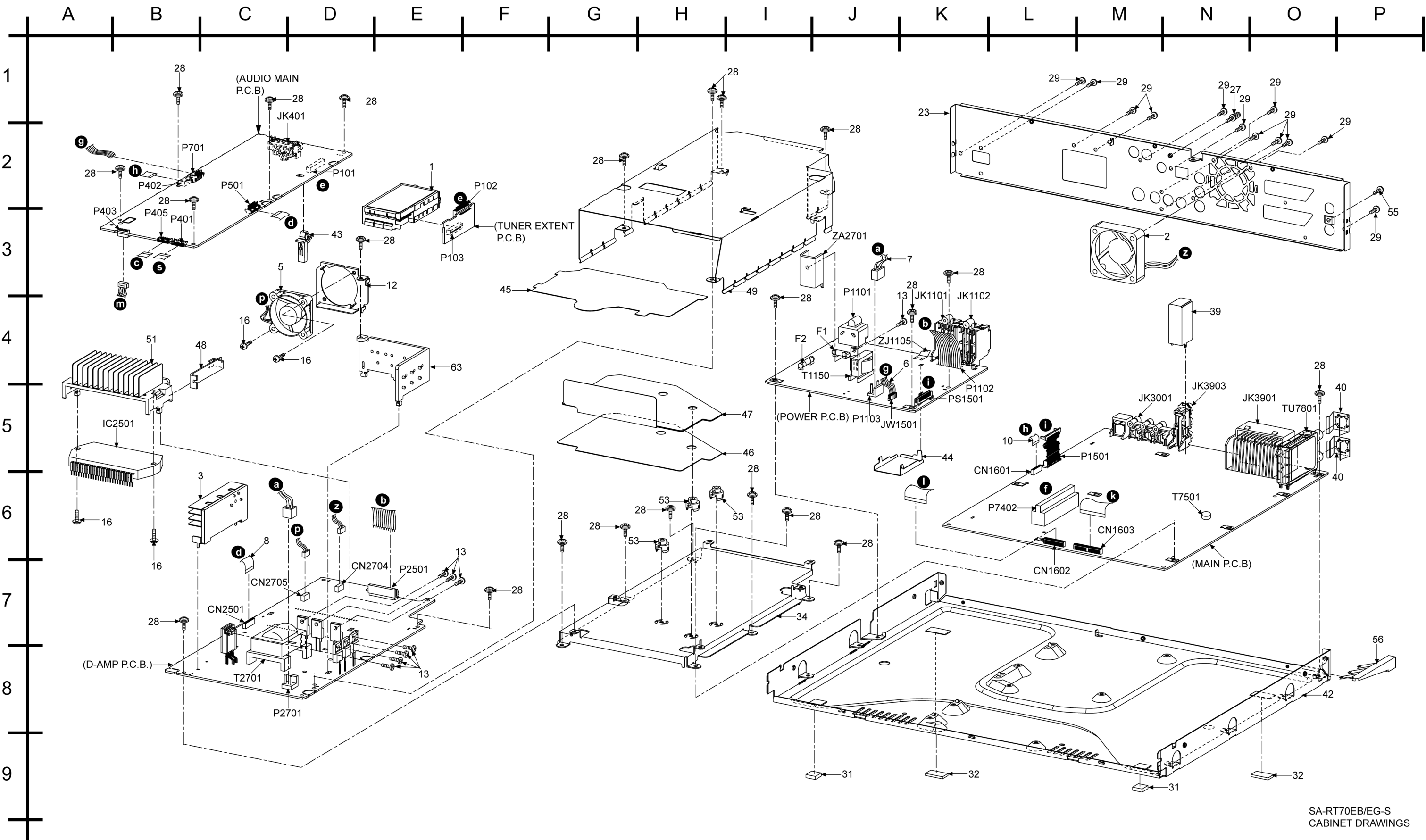
Pin No.	Mark	I/O	Function
1	EEPROM_DIO	I/O	EERROM data I/O
2	EEPROM_CLK	I	EERROM clock
3	EEPROM_CS	I	EERROM chip select
4	NO_USE(L)	-	No connection
5	NO_USE(L)	-	No connection
6	HP_SW	O	Headphone switch
7	HP_MUTE	O	Headphone muting
8	BYTE	I	BYTE (VSS-GND)
9	CNVSS	-	GND
10	NO_USE(L)	-	No connection
11	NO_USE(L)	-	No connection
12	/RESET	I	Microprocessor reset
13	XOUT	O	Oscillator output
14	VSS	-	GND
15	XIN	-	Oscillator input
16	VCC	-	Voltage supply
17	/NMI	I	External interrupt I/P
18	P_FAIL_L	I	Power failure (Active Low)
19	NO_USE(L)	-	No connection
20	REMOCON	I	Remote control I/P
21	NO_USE(L)	-	No connection
22	NO_USE(L)	-	No connection
23	NO_USE(L)	-	No connection
24	/RF_SEL	O	RF select
25	MP_SW	I	Micro-P Detect sw I/P
26	RF_MUTE2	O	RF muting 2
27	ID_SET	I/O	ID setting (For RF)
28	RF_MUTE	O	RF muting
29	RF_LINK	I	RF link detection
30	RF_DET	I	RF input (Wireless Module)
31	RF_SEL (FLASHO)	I	For flash programming
32	(FLASHI)	O	For flash programming
33	(FLASHCLK)	O	For flash programming
34	(FLASHBUSY)	O	For flash programming
35	TIMER_DO	O	Timer data O/P
36	TIMER_DI	I	Timer data I/P
37	TIMER_CLK	I	Timer CLK
38	TIMER_CS	O	Timer chip select
39	CC_GAIN_SW	-	No connection
40	4053_AB	O	Selector control
41	ASP_CLK	O	Clock signal (ASP)
42	ASP_DA	O	Data signal (ASP)
43	F_S_SW	-	No connection
44	S_F_SW	I	SF detect SW I/P
45	SSMIX_SW	-	No connection
46	(CE)	-	GND
47	LINE_MUTE	O	Line muting
48	SUB_LIMIT	O	Subwoofer lever limit
49	MUTE_S	O	Surround L & R mute
50	MUTE_A	O	Audio muting
51	4052_A	O	Selector control A
52	4052_B	O	Selector control B
53	SUB_SW	I	Subwoofer Detect SW I/P
54	NO_USE(L)	-	No connection
55	TU_SD	I	Tuner station detect
56	NO_USE(L)	-	No connection
57	SDA	O	I2C data for tuner
58	SCK	O	I2C clock for tuner
59	TU_ST	I	Tuner stereo signal
60	RDS_RDOA	O	RDS decoder data signal
61	RDS_RDCL	I	RDS decoder CLK signal
62	VCC	-	Power supply (5V)

Pin No.	Mark	I/O	Function
63	RDS_IDR	O	RDS decoder select
64	VSS	-	GND (0V)
65	NO_USE(L)	-	No connection
66	NO_USE(L)	-	No connection
67	NO_USE(L)	-	No connection
68	MODE_S	O	Digital AMP mode select
69	MODE_F	O	Digital AMP mode select
70	STBY	O	Standby mode
71	JOG_B	I	Signal B from volume jog
72	JOG_A	I	Signal A from volume jog
73	AM_H	I/O	AM Beat proof enable
74	AM_BPI	O	AM beat proof 1
75	PCONT	O	Power control
76	DC_DET	I	DC detect signal (Voltage)
77	NO_USE(L)	-	No connection
78	F_SHIFT	O	Frequency shift for digital amp
79	AM_BP2	O	AM beat proof 2
80	VCC_CONT	O	VCC control
81	NO_USE(L)	-	No connection
82	NO_USE(L)	-	No connection
83	AGC_SEL	O	Automatic gain control select
84	REG5	I	Region setting 5
85	REG4	I	Region setting 4
86	REG3	I	Region setting 3
87	REG2	I	Region setting 2
88	REG1	I	Region setting 1
89	NO_USE(L)	-	No connection
90	NO_USE(L)	-	No connection
91	NO_USE(L)	-	No connection
92	NO_USE(L)	-	No connection
93	NO_USE(L)	-	No connection
94	SENSE1	I	Level sense 1
95	SENSE2	I	Level sense 2
96	AVSS	-	GND (0V)
97	KEY	I	Key input
98	VREF	-	Reference voltage input
99	AVCC	-	Analog power supply I/P
100	NO_USE(L)	-	No connection

23 Exploded Views

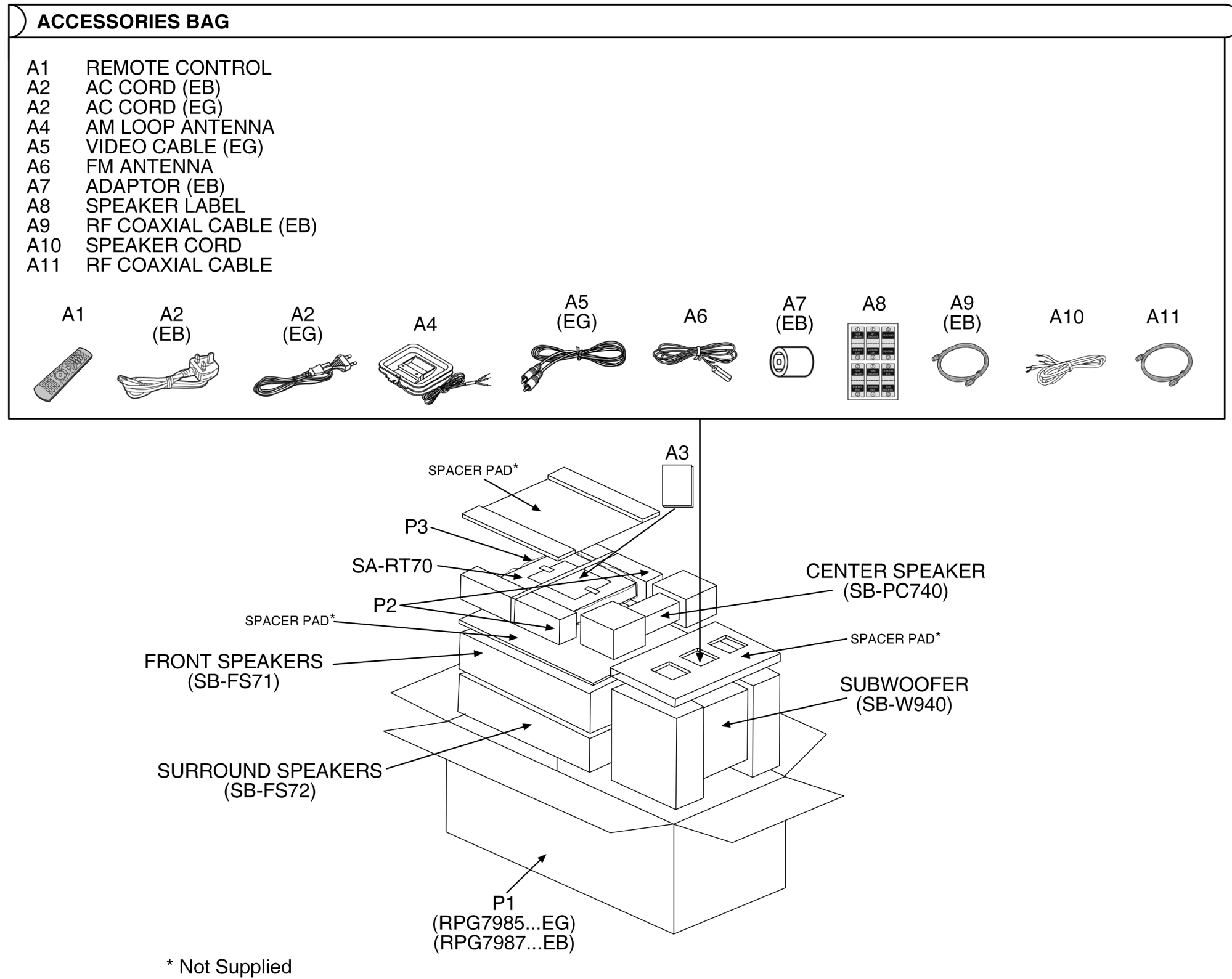
23.1. Cabinet Parts Location





SA-RT70EB/EG-S
CABINET DRAWINGS

23.2. Packaging



24 Replacement Parts List

Notes:

- Important safety notice:

Components identified by △ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.

When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour)
- Parts without these indications can be used for all areas.

- Warning: This product uses a laser diode. Refer to "Precaution of Laser Diode".

ACTUNG:

Die Lasereinheit nicht zerlegen.

Die Lasereinheit darf nur gegen eine vom Hersteller spezifizierte Einheit ausgetauscht werden.

- Capacitor values are in microfarads (μF) unless specified otherwise, P= Pico-farads (pF), F= Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM).
- The marking (RTL) indicates that the Retention Time is limited for this items. 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 a availability is dependent 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.
- [M] indicates in the Remarks columns are parts supplied by **PAVCSG**.
- [SPG] indicates in the Remarks columns are parts supplied by **PAVC**.
- Reference for O/I book languages are as follows:

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

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	J3CCBC000012	TUNER PACK	[M]
2	L6FAHABH0008	FAN	[M]
3	RXXX0067	HEAT SINK C	[M]
5	L6FAJCC00007	SMALL DC FAN MOTOR	[M]
6	REZ1760	WIRE	[M]
7	REE1371	WIRE	[M]
8	REZ1751	WIRE	[M]
9	REZ1752	WIRE	[M]
10	REZ1753	WIRE	[M]
11	REZ1754	WIRE	[M]
12	RMA1997	MECHANICAL PART	[M]
13	XTB3+10JFJ	SCREW	[M]
14	REZ1757	WIRE	[M]
15	REZ1758	WIRE	[M]
16	XTW3+15TFJ	SCREW	[M]
17	RGK1988-S	VOLUME RING	[M]
18	RGK1989-S	BUTTON RING	[M]
19	RGK1990-S	PANEL ORNAMENT C	[M]
20	RGK1991-S	PANEL ORNAMENT L	[M]
21	RGK1992-S	PANEL ORNAMENT R	[M]
22	RGK1993-S	PANEL ORNAMENT S	[M]
23	RGR0367B-C1	REAR PANEL	[M]EG
23	RGR0367B-D2	REAR PANEL	[M]EB
24	RGW0402-S	VOLUME KNOB	[M]
25	RYP1328C-S1	FRONT PANEL ASS'Y	[M]EG
25	RYP1328D-S1	FRONT PANEL ASS'Y	[M]EB
25-1	RHD26046	SCREW	[M]
25-2	RYF0787-K	TRAY DOOR UNIT	[M]
25-3	RYF0799B-S	JACK LID UNIT	[M]
25-4	RYP1327C-S1	FRONT PANEL UNIT	[M]EG
25-4	RYP1327D-S1	FRONT PANEL UNIT	[M]EB

Ref. No.	Part No.	Part Name & Description	Remarks
25-5	RGL0688-Q	LIGHTING CHIP	[M]
26	RHD30007-18J	SCREW	[M]
27	RHD30070	EARTH TERMINAL	[M]
28	RHD30111-3	SCREW	[M]
29	RHD30119-S	SCREW	[M]
30	RHD30005-1	SCREW	[M]
31	RKA0144-K	LEG CUSHION B	[M]
32	RKA0177-K	LEG CUSHION	[M]
33	RKM0557-S	TOP CABINET	[M]
34	RMA1988	D-AMP BASE	[M]
35	RMA1989	MECHA ANGLE	[M]
36	RMA1990	DIGITAL ANGLE F	[M]
37	RMA1991	DIGITAL ANGLE R	[M]
38	RMN0847	FL HOLDER	[M]
39	RSC0789	RCA SHIELD	[M]
40	RMC0625	TUNER GND	[M]
41	RMC0690	MP EARTH SPRING	[M]
42	RMK0659	BOTTOM CHASSIS	[M]
43	RMN0203	PCB HOLDER	[M]
44	RMZ0858	PRIMARY COVER	[M]
45	RMZ0830	D-AMP ISOLATOR U	[M]
46	RMZ0831	D-AMP ISOLATOR B	[M]
47	RMZ0840	D-AMP ISOLATOR M	[M]
48	RMZ0849	WIRE HOLDER	[M]
49	RSC0787-1	D-AMP SHIELD	[M]
50	RSC0790	FRONT SHIELD	[M]
51	RXX0301	HEAT SINK	[M]
52	RFKNRT70EB	RAM/DIGITAL P.C.B MODULE	[M]EB
52	RFKNRT70EG	RAM/DIGITAL P.C.B MODULE	[M]EG
53	SHE170-4	PCB SUPPORT	[M]
54	SHR9752	WIRE HOLDER	[M]
55	XSN3+4FJ	SCREW	[M]
56	RMC0698	TUNER EARTH	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
57	RMA2015	VR PLATE	[M]
58	RMC0696	VR EARTH SPRING	[M]
59	RMC0697	DV EARTH SPRING	[M]
60	RSC0800	DIGITAL SHIELD	[M]
63	RMY0365	MECHANICAL PART	[M]
		PRINTED CIRCUIT BOARD	
	REP4074A	MAIN P.C.B	[M] EB (RTL)
	REP4074CT	MAIN P.C.B	[M] EG (RTL)
	REP4072B	POWER P.C.B / PANEL L P.C.B / VOLUME P.C.B / DV P.C.B / PANEL R P.C.B	[M] (RTL)
	REP4071B	TUNER EXTENT P.C.B / D-AMP P.C.B / AUDIO MAIN P.C.B	[M] (RTL)
		INTEGRATED CIRCUITS	
IC31	C0CBAHE00002	IC +9V REGULATOR	[M]
IC151	C1BB00000987	IC RDS	[M]
IC401	C0ABCB000038	IC QUAD OP AMP	[M]
IC501	C0ABBB0000403	IC DUAL OP AMP	[M]
IC502	C1BB00001098	IC ASP	[M]
IC503	C0ABCB000038	IC QUAD OP AMP	[M]
IC504	C0ABBB0000403	IC DUAL OP AMP	[M]
IC505	C0JBAS000081	IC +3.3V REGULATOR	[M]
IC506	C0ABBB0000403	IC DUAL OP AMP	[M]
IC601	C0AABB000085	IC HEADPHONE AMP	[M]
IC731	C0ABBB0000403	IC OP AMP	[M]
IC801	C2CBHG000226	IC MICRO PROCESSOR	[M]
IC1150	C0DACZH00017	IC SWITCHING REGULATOR	[M]
IC1200	C0DAEJC00006	IC SHUNT REGULATOR	[M]
IC1505	C0CBCBC00174	IC +3.3V REGULATOR	[M]
IC1506	C0CBCYG00004	IC +5V REGULATOR	[M]
IC1507	C0CBCDD00027	IC +5.2V REGULATOR	[M]
IC1510	C0CBCDG00006	IC +5V REGULATOR	[M]
IC1520	C0CBCDC00052	IC +5V REGULATOR	[M]
IC1521	C0CBCBD00048	IC +3.3V REGULATOR	[M]
IC2501	RSN704D65-P	IC DIGITAL POWER AMP	[M]
IC2502	C0ABBA000180	IC OPERATIONAL AMP	[M]
IC2503	C0EBJ0000336	IC VOLTAGE DETECT	[M]
IC2701	C5HABZZ00125	IC SWITCHING REGULATOR	[M] △
IC2702	C0DABFC00002	IC SHUNT REGULATOR	[M]
IC2703	C0ABBB000067	IC OP AMP	[M]
IC2705	C0CAAKG00049	IC REGULATOR	[M]
IC2781	C0JBAB0000472	IC INVERTER GATE	[M]
IC3001	C1AB00002379	IC VIDEO/AUDIO PROCESSOR	[M]
IC4009	C0ABBB000216	IC OP AMP	[M]
IC4011	C0DBAHD00013	IC POWER SUPPLY (REGULATOR)	[M]
IC4012	C0ABBB000118	IC OP AMP	[M]
IC7301	C0ZBZ0001081	IC DECODER	[M] EG
IC7301	C1AB00002225	IC DECODER	[M] EB
IC7302	C0EAH0000051	IC RESET	[M] EB
IC7401	C0CBCYG00004	IC +11.6V REGULATOR	[M]
IC7402	C0CBCDC00052	IC +5V REGULATOR	[M]
IC7403	C0CBCDD00025	IC VOLTAGE REGULATOR	[M]
IC7404	RFKFM6016K	IC EEPROM	[SPG] EB
IC7404	RFKFM6016KT	IC EEPROM	[SPG] EG
IC7501	C2CBJG000722	IC MICRO-P	[M]
IC7502	C0EBE0000504	IC REGULATOR	[M]
IC7504	C0HBB0000044	IC DISPLAY DRIVER	[M]
IC7505	C0EBJ0000336	IC +5V DETECT	[M]
IC7506	C0EBE0000457	IC 3.3V DETECT	[M]
		TRANSISTORS	
Q21	2SC3940ARA	TRANSISTOR	[M]
Q22	2SB0621AHA	TRANSISTOR	[M]
Q23	B1ADCF000001	TRANSISTOR	[M]
Q51	B1ABGC000001	TRANSISTOR	[M]
Q602	B1GFGCAA0001	TRANSISTOR	[M]
Q604	B1ADCF000001	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q605	B1ABGC000001	TRANSISTOR	[M]
Q610	B1GFGCAA0001	TRANSISTOR	[M]
Q611	B1ABGC000001	TRANSISTOR	[M]
Q612	B1ABGC000001	TRANSISTOR	[M]
Q613	B1ADCF000001	TRANSISTOR	[M]
Q621	B1GFGCAA0001	TRANSISTOR	[M]
Q624	B1ADCF000001	TRANSISTOR	[M]
Q690	B1GFGCAA0001	TRANSISTOR	[M]
Q701	B1ADCF000001	TRANSISTOR	[M]
Q702	B1ABCF000011	TRANSISTOR	[M]
Q761	B1GFGCAA0001	TRANSISTOR	[M]
Q1110	B1AAKD000012	TRANSISTOR	[M]
Q1200	B3PBA0000402	TRANSISTOR	[M] △
Q1203	B1AAKD000012	TRANSISTOR	[M]
Q1204	B1ACKD000005	TRANSISTOR	[M]
Q1509	B1DHED000008	TRANSISTOR	[M]
Q2501	B1ABCF000011	TRANSISTOR	[M]
Q2502	B1ABCF000011	TRANSISTOR	[M]
Q2503	B1ADBL000010	TRANSISTOR	[M]
Q2504	B1ADCF000001	TRANSISTOR	[M]
Q2514	B1ABCF000011	TRANSISTOR	[M]
Q2515	B1ADBL000010	TRANSISTOR	[M]
Q2522	B1ABCF000011	TRANSISTOR	[M]
Q2523	B1ABCF000011	TRANSISTOR	[M]
Q2524	B1ABCF000011	TRANSISTOR	[M]
Q2525	B1ABCF000011	TRANSISTOR	[M]
Q2595	B1ABCF000011	TRANSISTOR	[M]
Q2596	B1ABCF000011	TRANSISTOR	[M]
Q2701	2SC3940ARA	TRANSISTOR	[M]
Q2702	B1ABCF000011	TRANSISTOR	[M]
Q2703	B1BACG000023	TRANSISTOR	[M]
Q2704	B1ABCF000011	TRANSISTOR	[M]
Q2740	B1BACG000048	TRANSISTOR	[M]
Q2741	B1ABCF000011	TRANSISTOR	[M]
Q2742	B1ABCF000011	TRANSISTOR	[M]
Q2744	B1ABCF000011	TRANSISTOR	[M]
Q2751	B1BAAJ000003	TRANSISTOR	[M]
Q4006	2SD132800L	TRANSISTOR	[M]
Q4007	2SD132800L	TRANSISTOR	[M]
Q4008	2SD132800L	TRANSISTOR	[M]
Q4009	2SD132800L	TRANSISTOR	[M]
Q7401	2SD1819A0L	TRANSISTOR	[M]
Q7402	2SD1819A0L	TRANSISTOR	[M]
Q7501	2SB1218A0L	TRANSISTOR	[M]
Q7502	2SD1819A0L	TRANSISTOR	[M]
Q7503	2SB1218A0L	TRANSISTOR	[M]
Q7504	2SD1819A0L	TRANSISTOR	[M]
Q7505	2SD0601A0L	TRANSISTOR	[M]
Q7506	2SD0601A0L	TRANSISTOR	[M]
Q7507	2SD0601A0L	TRANSISTOR	[M]
Q7508	2SD1819A0L	TRANSISTOR	[M]
Q7510	B1BABK000001	TRANSISTOR	[M]
Q7513	2SD0601A0L	TRANSISTOR	[M]
QR605	B1GDCFJA0001	TRANSISTOR	[M]
QR608	B1GDCFJA0001	TRANSISTOR	[M]
QR691	B1GDCFJA0001	TRANSISTOR	[M]
QR771	B1GDCFJA0001	TRANSISTOR	[M]
QR801	B1GBCFJN0004	CHIP TRANSISTOR	[M]
QR1201	UNR212300L	CHIP TRANSISTOR	[M]
QR1202	UNR221100L	CHIP TRANSISTOR	[M]
QR1501	UNR521300L	CHIP TRANSISTOR	[M]
QR4002	UNR511100L	CHIP TRANSISTOR	[M]
QR4003	UNR521100L	CHIP TRANSISTOR	[M]
QR4004	UNR521100L	CHIP TRANSISTOR	[M]
QR7401	UNR521300L	CHIP TRANSISTOR	[M]
QR7402	UNR511200L	CHIP TRANSISTOR	[M]
QR7403	UNR521500L	CHIP TRANSISTOR	[M]
QR7404	UNR521500L	CHIP TRANSISTOR	[M]
QR7506	UNR521200L	CHIP TRANSISTOR	[M]
QR7507	UNR521000L	CHIP TRANSISTOR	[M]
QR7508	UNR521400L	CHIP TRANSISTOR	[M]
QR7551	UNR221300L	CHIP TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
QR7552	UNR221300L	CHIP TRANSISTOR	[M]
		DIODES	
D21	B0BC7R600009	DIODE	[M]
D151	B0BC5R000009	DIODE	[M]
D501	MA2J72900L	DIODE	[M]
D503	MA2J72900L	DIODE	[M]
D601	B0ACCK000005	DIODE	[M]
D602	B0BC5R000009	DIODE	[M]
D696	B0ACCK000005	DIODE	[M]
D702	B0ACCK000005	DIODE	[M]
D705	B0ACCK000005	DIODE	[M]
D731	B0BC5R000009	DIODE	[M]
D732	B0ACCK000005	DIODE	[M]
D733	B0ACCK000005	DIODE	[M]
D801	B0ACCE000003	DIODE	[M]
D802	B0ACCE000003	DIODE	[M]
D803	MA2J72900L	DIODE	[M]
D804	B0ACCK000005	DIODE	[M]
D813	B0ACCK000005	DIODE	[M]
D1110	MA2J11100L	DIODE	[M]
D1140	B0EDKT000009	DIODE	[M]
D1150	B0AZ0000052	DIODE	[M]
D1151	B0HAJM000005	DIODE	[M]
D1152	B0BC8R100004	DIODE	[M]
D1156	MA2J11100L	DIODE	[M]
D1157	B0HADV000002	DIODE	[M]
D1160	MA2J11100L	DIODE	[M]
D1260	B0JAQG000005	DIODE	[M]
D1261	B0JAQG000005	DIODE	[M]
D1262	MA2J11100L	DIODE	[M]
D1271	B0JAQG000005	DIODE	[M]
D1272	B0JAMG000011	DIODE	[M]
D1273	B0JCMD000010	DIODE	[M]
D1275	B0BC02900004	DIODE	[M]
D1276	B0JCMD000010	DIODE	[M]
D1277	B0BC02900004	DIODE	[M]
D2531	B0BC3R400001	DIODE	[M]
D2541	B0ACCK000005	DIODE	[M]
D2701	B0FBAR000038	DIODE	[M] △
D2702	B0AZ0000052	DIODE	[M]
D2703	B0BC02900004	DIODE	[M]
D2704	B0JAME000029	DIODE	[M]
D2705	B0HAJM000005	DIODE	[M]
D2706	B0HAJM000005	DIODE	[M]
D2707	B0BC019A0007	DIODE	[M]
D2708	B0BC01700015	DIODE	[M]
D2709	B0ACCK000005	DIODE	[M]
D2710	B0HAJM000005	DIODE	[M]
D2711	B0HBSM000043	DIODE	[M]
D2716	B0HBRM000031	DIODE	[M]
D2717	B0HBRM000031	DIODE	[M]
D2718	B0EAKM000157	DIODE	[M]
D2725	B0BC7R500001	DIODE	[M]
D2726	B0BC7R500001	DIODE	[M]
D2740	B0BC010A0007	DIODE	[M]
D2743	B0ACCK000005	DIODE	[M]
D2744	B0ACCK000005	DIODE	[M]
D2745	B0ACCK000005	DIODE	[M]
D2751	B0ECKP000002	DIODE	[M]
D2771	B0BC6R700006	DIODE	[M]
D2772	B0ACCK000005	DIODE	[M]
D2781	B0ACCE000003	DIODE	[M]
D2782	B0ACCE000003	DIODE	[M]
D2783	B0ACCK000005	DIODE	[M]
D2784	B0BC5R000009	DIODE	[M]
D2785	B0ECKP000002	DIODE	[M]
D3901	MA2C165001VT	DIODE	[M]
D4001	MA2C165001VT	DIODE	[M]
D4005	MA3Z142D0LG	DIODE	[M]
D4006	MA3Z142D0LG	DIODE	[M]
D7403	MA2C165001VT	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D7501	B0BA03600021	DIODE	[M]
D7501	B0BC5R000009	DIODE	[M]
D7502	B0ACCK000005	DIODE	[M]
D7504	MAZ4220NLF	DIODE	[M]
D7505	B0AADM000003	DIODE	[M]
D7506	B0AADM000003	DIODE	[M]
D7507	B0JAMD000026	DIODE	[M]
D7508	MAZ4180NHF	DIODE	[M]
D7509	B0JDCE000002	DIODE	[M]
D7510	MA2C165001VT	DIODE	[M]
D7551	B3ABA0000397	DIODE	[M]
D7553	B3AAA0000534	DIODE	[M]
D7802	B0BA03000015	DIODE	[M]
DP7501	A2BB00000160	FL DISPLAY	[M]
DZ1110	ERZV10D471CS	ZENER	[M] △
		SWITCHES	
S7500	EVEKF2F3024M	SW VOLUME JOG	[M]
S7501	EVQ11G05R	SW OPEN/CLOSE	[M]
S7502	EVQ11G05R	SW STOP	[M]
S7503	EVQ11G05R	SW SELECTOR	[M]
S7504	EVQ11G05R	SW PLAY	[M]
S7505	EVQ11G05R	SW REC	[M]
S7551	EVQ11G05R	SW CH UP	[M]
S7552	EVQ11G05R	SW POWER	[M]
S7553	EVQ11G05R	SW CH DOWN	[M]
S7554	EVQ11G05R	SW SURROUND	[M]
		CONNECTORS	
CN1601	K1MN13AA0003	13P CONNECTOR	[M]
CN1602	K1MN18AA0004	18P CONNECTOR	[M]
CN1603	K1MN28AA0004	28P CONNECTOR	[M]
CN1603	K1MN28BA0005	28P CONNECTOR	[M]
CN2501	K1MN16AA0003	16P CONNECTOR	[M]
CN2704	K1KA03AA0180	3P CONNECTOR	[M]
CN2705	K1KA02AA0186	2P CONNECTOR	[M]
P101	K1KA10AA0031	10P CONNECTOR	[M]
P102	K1KB10B00042	10P CONNECTOR	[M]
P103	K1KA10AA0031	10P CONNECTOR	[M]
P401	K1MN11BA0004	11P CONNECTOR	[M]
P402	K1MN13BA0004	13P CONNECTOR	[M]
P403	K1KA04BA0061	4P CONNECTOR	[M]
P405	K1MN07B00009	7P CONNECTOR	[M]
P501	K1MN16BA0005	16P CONNECTOR	[M]
P701	K1MP05B00004	5P CONNECTOR	[M]
P1102	REZ1762	12P WIRE	[M]
P1103	K1KA02A00593	2P CONNECTOR	[M] △
P1501	K1KA19A00007	19P CONNECTOR	[M]
P2501	K1MP12A00005	12P CONNECTOR	[M]
P2701	K1KA02A00593	2P CONNECTOR	[M]
P7402	K1KY64A00001	64P CONNECTOR	[M]
P7501	K1MN07B00009	7P CONNECTOR	[M]
P7503	K1YZ03000010	3P CABLE HOLDER	[M]
P7513	K1YZ03000010	3P CABLE HOLDER	[M]
P7521	K1KA06B00181	6P CONENCTOR	[M]
		THERMISTOR	
TH2701	D4CAC8R00002	THERMISTOR	[M] △
		COILS & TRANSFORMERS	
L151	J0JBC0000041	CHIP INDUCTOR	[M]
L152	J0JBC0000041	CHIP INDUCTOR	[M]
L153	J0JBC0000041	CHIP INDUCTOR	[M]
L801	J0JBC0000041	CHIP INDUCTOR	[M]
L1101	ELF15N035AN	LINE FILTER	[M] △
L1102	ELF15N804A	INDUCTOR COIL	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
L1201	G0A100HA0023	INDUCTOR	[M]
L1202	G0A100HA0023	INDUCTOR	[M] △
L1203	G0A200D00002	COIL	[M]
L1205	G0A220GA0026	INDUCTOR	[M]
L1206	G0A100HA0023	INDUCTOR	[M]
L1207	G0A100HA0023	INDUCTOR	[M]
L1208	G0A100HA0023	INDUCTOR	[M]
L1209	G0A200D00002	COIL	[M]
L1210	ELF21N015A	COMMON MODE COIL	[M] △
L1211	G0A200D00002	COIL	[M]
L1212	G0A200D00002	COIL	[M]
L1217	G0B9R5K00001	COIL	[M]
L1218	G0B9R5K00001	COIL	[M]
L1221	G0B9R5K00001	COIL	[M]
L1222	G0B9R5K00001	COIL	[M]
L1223	G0B9R5K00001	COIL	[M]
L1224	G0B9R5K00001	COIL	[M]
L2501	ETQA17A150T	COIL	[M]
L2502	ETQA17A150T	COIL	[M]
L2503	ETQA15A150T	COIL	[M]
L2505	ETQA15A150T	COIL	[M]
L2521	ELJPC220KFB	COIL	[M]
L2523	ELJPC220KFB	COIL	[M]
L2703	ELF21N015A	COMMON MODE COIL	[M] △
L7303	G0C1R0JA0019	COIL	[M] EB
L7304	G0C2R2JA0019	COIL	[M] EB
L7304	G0C470JA0019	COIL	[M] EG
L7401	G0A220GA0026	INDUCTOR	[M]
L7402	G0A220GA0026	INDUCTOR	[M]
L7501	G0C101JA0052	INDUCTOR	[M]
L7501	G0C390JA0055	COIL	[M]
L7502	G0C101JA0052	INDUCTOR	[M]
L7502	G0C220JA0019	AXIAL INDUCTOR	[M]
L7503	J0JBC0000019	CHIP INDUCTOR	[M]
L7504	J0JBC0000019	CHIP INDUCTOR	[M]
L7521	J0JCC0000103	FILTER	[M]
L7522	J0JCC0000103	FILTER	[M]
L7523	J0JCC0000103	FILTER	[M]
L7524	J0JCC0000103	FILTER	[M]
LB1123	J0JKB0000003	INDUCTOR	[M]
LB1124	J0JKB0000003	INDUCTOR	[M]
LB1125	J0JHC0000055	INDUCTOR	[M]
LB1126	J0JHC0000012	COIL	[M]
LB1127	J0JHC0000012	COIL	[M]
LB1502	J0JKB0000003	INDUCTOR	[M]
LB1503	J0JKB0000003	INDUCTOR	[M]
LB1504	J0JKB0000003	INDUCTOR	[M]
LB1506	J0JKB0000003	INDUCTOR	[M]
LB2571	J0JKB0000020	EMI BEAD CORE	[M]
LB2572	J0JKB0000020	EMI BEAD CORE	[M]
LB2704	J0JKB0000020	EMI BEAD CORE	[M]
LB2705	J0JKB0000003	INDUCTOR	[M]
LB2706	J0JKB0000002	CHIP INDUCTOR	[M]
LB2707	J0JKB0000002	CHIP INDUCTOR	[M]
LB3001	J0JGC0000020	FILTER	[M]
LB3002	J0JGC0000020	FILTER	[M]
LB3003	J0JGC0000020	FILTER	[M]
LB3006	J0JBC0000019	CHIP INDUCTOR	[M]
LB3008	J0JBC0000019	CHIP INDUCTOR	[M]
LB3901	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB3902	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB3903	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB3907	J0JBC0000011	FILTER	[M]
LB3908	J0JBC0000011	FILTER	[M]
LB3911	J0JGC0000020	FILTER	[M]
LB3912	J0JBC0000011	FILTER	[M]
LB3913	J0JBC0000011	FILTER	[M]
LB3914	J0JCC0000103	FILTER	[M]
LB3915	J0JCC0000103	FILTER	[M]
LB7301	J0JCC0000124	CHIP COIL	[M] EB
LB7302	J0JCC0000124	CHIP COIL	[M] EB
LB7303	J0JCC0000080	CHIP COIL	[M] EB

Ref. No.	Part No.	Part Name & Description	Remarks
LB7304	J0JHC0000032	FILTER	[M]
LB7401	J0JGC0000020	FILTER	[M]
LB7402	J0JKB0000012	FILTER	[M]
LB7403	J0JKB0000012	FILTER	[M]
LB7404	J0JKB0000012	FILTER	[M]
LB7405	J0JKB0000012	FILTER	[M]
LB7406	J0JCC0000164	FILTER	[M]
LB7407	J0JKB0000012	FILTER	[M]
LB7408	J0JCC0000164	FILTER	[M]
LB7409	J0JKB0000012	FILTER	[M]
LB7410	J0JCC0000103	FILTER	[M]
LB7411	J0JCC0000164	FILTER	[M]
LB7412	J0JCC0000164	FILTER	[M]
LB7413	J0JCC0000164	FILTER	[M]
LB7414	J0JCC0000164	FILTER	[M]
LB7415	J0JCC0000103	FILTER	[M]
LB7416	J0JCC0000164	FILTER	[M]
LB7417	J0JCC0000103	FILTER	[M]
LB7418	J0JCC0000103	FILTER	[M]
LB7419	J0JCC0000103	FILTER	[M]
LB7420	J0JCC0000164	FILTER	[M]
LB7501	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7501	J0JCC0000103	FILTER	[M]
LB7502	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7503	J0JCC0000103	FILTER	[M]
LB7507	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7508	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7509	J0JCC0000060	EMI FILTER	[M]
LB7510	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7515	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7516	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7517	ERJ3GEY0R00V	CHIP JUMPER	[M]
LB7802	J0JHC0000032	FILTER	[M]
LB7803	J0JHC0000032	FILTER	[M]
LB7804	J0JHC0000032	FILTER	[M]
T1150	ETS29AZ2L6AC	TRANSFORMER	[M] △
T2701	ETS42BN196AD	TRANSFORMER	[M] △
T7501	G4D1A0000117	TRANSFORMER	[M] △
IP1	K5H2022A0013	FUSE	[M] △
IP2	K5H2022A0013	FUSE	[M] △
IP3	K5H2022A0013	FUSE	[M] △
IP1501	K5H302100004	FUSE PROTECTOR	[M]
IP7501	K5H7512A0010	FUSE PROTECTOR	[M]
IR7501	B3RAD0000081	INFRARED RAY	[M]
PC2701	B3PBA0000402	PHOTO COUPLER	[M] △
PS1501	K1KB19AA0032	19P CONNECTOR	[M]
TU7801	ENG7503GF	TV TUNER PACK	[M] EG
TU7801	ENG7505GF	TV TUNER PACK	[M] EB
ZA1	EYF52BCY	FUSE HOLDER	[M]
ZA2	EYF52BCY	FUSE HOLDER	[M]
ZA3	EYF52BCY	FUSE HOLDER	[M]
ZA4	EYF52BCY	FUSE HOLDER	[M]
ZA1102	K9ZZ00001279	EARTH TERMINAL	[M]
ZA2701	RMY0334-2	HEAT SINK	[M]
ZJ401	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ700	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ702	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ1103	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ1104	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ1105	RM0667	EARTH SPRING	[M]
ZJ2701	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ2702	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ3001	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ3002	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ7401	K9ZZ00001279	EARTH TERMINAL	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
ZJ7402	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ7403	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ7404	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ7405	K9ZZ00001279	EARTH TERMINAL	[M]
ZJ7406	K9ZZ00001279	EARTH TERMINAL	[M]
		RELAY	
RY721	K6B1AEA00003	POWER RELAY	[M] △
		OSCILLATORS	
X151	H0H433400002	CRYSTAL	[M]
X801	H2B100500004	CERAMIC RESONATORS	[M]
X2781	H2A415300001	CERAMIC RESISTOR	[M]
X2782	H2A375300003	CERAMIC RESISTOR	[M]
X7301	H0D245500016	CRYSTAL OSCILLATOR	[M] EB
X7301	H0H400400006	CRYSTAL OSCILLATOR	[M] EG
X7501	H0D100500018	CRYSTAL OSCILLATOR	[M]
X7502	H0A327200108	CRYSTAL RESONATORS	[M]
		FUSES	
F1	K5D402BK0007	250V 4A FUSE	[M] △
F2	K5D102BK0008	250V 1A FUSE	[M] △
		CHIP RESISTORS	
W101	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W201	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W203	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W204	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W315	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W316	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W600	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W601	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W602	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W603	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W605	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W606	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W608	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W609	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W610	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W611	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W612	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W613	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W614	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W615	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W616	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W617	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W618	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W619	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W621	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W622	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W701	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W702	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W703	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W704	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W705	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W706	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W707	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W708	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W709	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W710	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W711	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W712	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W713	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W714	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W715	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W716	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W717	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W718	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W719	ERJ3GEY0R00V	CHIP RESISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
W720	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W721	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W722	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W723	ERJ3GEY0R00V	CHIP RESISTOR	[M]
W724	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W725	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W726	ERJ6GEY0R00V	CHIP RESISTOR	[M]
W727	ERJ6GEY0R00V	CHIP RESISTOR	[M]
		CONNECTOR	
JW1501	K1YF050000001	CONNECTOR	[M]
JW7501	REE1373	8P WIRE (P7551/P7502)	[M]
JW7502	REZ1759	3P WIRE	[M]
		JACKS	
P7552	REE1372	WIRE	[M]
		JK	
JK401	K2HA204B0172	JK	[M]
JK1101	K4BC06B00035	JK SPEAKER	[M]
JK1102	K4BC06B00035	JK SPEAKER	[M]
JK3001	K1U412B00001	MULTIPLE CONNECTORS	[M]
JK3901	K1FB242B0005	JK	[M]
JK3903	K2HA304B0003	JK SMALL SIGN	[M]
JK7501	K2HC103A0024	JK SMALL SIGN	[M]
JK7502	K1U413A00007	JK MULT. CONNECTORS	[M]
JK7551	K2HC1YYA0005	JUMPER WIRE	[M]
		JK	
P1101	K2AA2B000015	JK	[M] △
P7522	K2HZ104B0012	JK	[M]
		PACKING MATERIALS	
P1	RPG7985	PACKING CASE	[M] EG
P1	RPG7987	PACKING CASE	[M] EB
P2	RPN1865	POLYFOAM	[M]
P3	RPF0058-1J	MIRAMAT	[M]
		ACCESSORIES	
A1	EUR7662YA0	REMOTE CONTROL	[M] EB
A1	EUR7662YB0	REMOTE CONTROL	[M] EG
A1-1	UR76EC5903A	R/C BATTERY COVER	[M]
A2	K2CQ2CA00002	AC CORD	[M] EG △
A2	K2CT3CA00004	AC CORD	[M] EB △
A3	RQT8672-1B	O/I BOOK (En)	[M] EB
A3	RQT8673-D	O/I BOOK (Ge/It/Fr)	[M] EG
A3	RQT8674-H	O/I BOOK (Sp/Sw/Du/Da)	[M] EG
A3	RQT8677-1B	SETUP GUIDE (En)	[M] EB
A3	RQT8678-J	SETUP GUIDE (Ge)	[M] EG
A3	RQT8679-D	SETUP GUIDE (It/Fr)	[M] EG
A3	RQT8680-E	SETUP GUIDE (Sp/Sw)	[M] EG
A3	RQT8681-H	SETUP GUIDE (Du/Da)	[M] EG
A4	N1DAAA00002	AM LOOP ANTENNA	[M]
A5	K2KA2BA00001	VIDEO CABLE	[M] EG
A6	RSA0007-L	FM ANTENNA	[M]
A7	K1YZ02000013	DIN ADAPTOR	[M] EB
A8	RQCA0968	SPEAKER LABEL	[M]
A9	K1TWACA00001	RF CABLE	[M] EB
A10	REEX0449B-2L	SPEAKER CORD	[M]
A11	VJA1123	RF CABLE	[M]
A12	XSN5+12FJ	SCREW	[M]
		RESISTORS	
R21	ERDS1FVJ2R2T	2.2 1/2W	[M]
R22	ERDS1FVJ392T	3.9K 1/2W	[M]
R23	ERJ3GEYJ151V	150 1/16W	[M]
R24	ERJ3GEYJ153V	15K 1/16W	[M]
R25	ERJ3GEYJ272V	2.7K 1/16W	[M]
R27	ERDS1FVJ2R2T	2.2 1/2W	[M]
R28	ERJ3GEYJ472V	4.7K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R29	ERJ3GEYJ153V	15K 1/16W	[M]
R51	ERJ3GEYJ123V	12K 1/16W	[M]
R52	ERJ3GEYJ222V	2.2K 1/16W	[M]
R112	ERJ3GEYJ102V	1K 1/16W	[M]
R113	ERJ3GEYJ102V	1K 1/16W	[M]
R114	ERJ3GEYJ104V	100K 1/16W	[M]
R115	ERJ3GEYJ104V	100K 1/16W	[M]
R151	ERJ3GEYJ121V	120 1/16W	[M]
R152	ERJ3GEYJ102V	1K 1/16W	[M]
R153	ERJ3GEYJ102V	1K 1/16W	[M]
R156	ERJ3GEYJ103V	10K 1/16W	[M]
R157	ERJ3GEYJ102V	1K 1/16W	[M]
R158	ERJ3GEYJ102V	1K 1/16W	[M]
R159	ERJ3GEYJ102V	1K 1/16W	[M]
R401	ERJ3GEYJ822V	8.2K 1/16W	[M]
R402	ERJ3GEYJ822V	8.2K 1/16W	[M]
R403	ERJ3GEYJ472V	4.7K 1/16W	[M]
R404	ERJ3GEYJ472V	4.7K 1/16W	[M]
R407	ERJ3GEYJ822V	8.2K 1/16W	[M]
R408	ERJ3GEYJ822V	8.2K 1/16W	[M]
R411	ERJ3GEYJ102V	1K 1/16W	[M]
R412	ERJ3GEYJ102V	1K 1/16W	[M]
R413	ERJ3GEYJ472V	4.7K 1/16W	[M]
R414	ERJ3GEYJ472V	4.7K 1/16W	[M]
R425	ERJ3GEYJ183V	18K 1/16W	[M]
R426	ERJ3GEYJ183V	18K 1/16W	[M]
R431	ERJ3GEYJ682V	6.8K 1/16W	[M]
R432	ERJ3GEYJ102V	1K 1/16W	[M]
R433	ERJ3GEYJ123V	12K 1/16W	[M]
R434	ERJ3GEYJ104V	100K 1/16W	[M]
R442	ERJ3GEY0R00V	0 1/16W	[M]
R443	ERJ3GEY0R00V	0 1/16W	[M]
R444	ERJ3GEY0R00V	0 1/16W	[M]
R445	ERJ3GEY0R00V	0 1/16W	[M]
R451	ERJ3GEYJ102V	1K 1/16W	[M]
R452	ERJ3GEYJ102V	1K 1/16W	[M]
R453	ERJ3GEYJ104V	100K 1/16W	[M]
R454	ERJ3GEYJ104V	100K 1/16W	[M]
R461	ERJ3GEYJ102V	1K 1/16W	[M]
R462	ERJ3GEYJ102V	1K 1/16W	[M]
R463	ERJ3GEYJ104V	100K 1/16W	[M]
R464	ERJ3GEYJ104V	100K 1/16W	[M]
R465	ERJ3GEYJ102V	1K 1/16W	[M]
R466	ERJ3GEYJ102V	1K 1/16W	[M]
R471	ERJ3GEYJ102V	1K 1/16W	[M]
R472	ERJ3GEYJ102V	1K 1/16W	[M]
R477	ERJ3GEY0R00V	0 1/16W	[M]
R478	ERJ3GEY0R00V	0 1/16W	[M]
R491	ERJ3GEYJ103V	10K 1/16W	[M]
R492	ERJ3GEYJ103V	10K 1/16W	[M]
R493	ERJ3GEYJ333V	33K 1/16W	[M]
R494	ERJ3GEYJ103V	10K 1/16W	[M]
R495	ERJ3GEYJ333V	33K 1/16W	[M]
R496	ERJ3GEYJ103V	10K 1/16W	[M]
R499	ERJ3GEYJ102V	1K 1/16W	[M]
R500	ERJ3GEYJ102V	1K 1/16W	[M]
R501	ERJ3GEYJ472V	4.7K 1/16W	[M]
R502	ERJ3GEYJ472V	4.7K 1/16W	[M]
R503	ERJ3GEYJ472V	4.7K 1/16W	[M]
R504	ERJ3GEYJ472V	4.7K 1/16W	[M]
R505	ERJ3GEYJ822V	8.2K 1/16W	[M]
R506	ERJ3GEYJ822V	8.2K 1/16W	[M]
R507	ERJ3GEYJ822V	8.2K 1/16W	[M]
R508	ERJ3GEYJ473V	47K 1/16W	[M]
R509	ERJ3GEYJ273V	27K 1/16W	[M]
R510	ERJ3GEYJ153V	15K 1/16W	[M]
R511	ERJ3GEYJ103V	10K 1/16W	[M]
R512	ERJ3GEYJ822V	8.2K 1/16W	[M]
R513	ERJ3GEYJ473V	47K 1/16W	[M]
R514	ERJ3GEYJ822V	8.2K 1/16W	[M]
R515	ERJ3GEYJ473V	47K 1/16W	[M]
R516	ERJ3GEYJ103V	10K 1/16W	[M]
R517	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R518	ERJ3GEYJ223V	22K 1/16W	[M]
R519	ERJ3GEYJ103V	10K 1/16W	[M]
R520	ERJ3GEYJ273V	27K 1/16W	[M]
R521	ERJ3GEYJ683V	68K 1/16W	[M]
R522	ERJ3GEYJ103V	10K 1/16W	[M]
R523	ERJ3GEYJ103V	10K 1/16W	[M]
R524	ERJ3GEYJ473V	47K 1/16W	[M]
R525	ERJ3GEYJ123V	12K 1/16W	[M]
R526	ERJ3GEYJ103V	10K 1/16W	[M]
R527	ERJ3GEYJ103V	10K 1/16W	[M]
R528	ERJ3GEYJ393V	39K 1/16W	[M]
R529	ERJ3GEYJ103V	10K 1/16W	[M]
R530	ERJ3GEYJ473V	47K 1/16W	[M]
R531	ERJ3GEYJ222V	2.2K 1/16W	[M]
R532	ERJ3GEYJ222V	2.2K 1/16W	[M]
R533	ERJ3GEYJ393V	39K 1/16W	[M]
R534	ERJ3GEYJ123V	12K 1/16W	[M]
R535	ERJ3GEYJ123V	12K 1/16W	[M]
R536	ERJ3GEYJ332V	3.3K 1/16W	[M]
R537	ERJ3GEYJ151V	150 1/16W	[M]
R538	ERJ3GEYJ151V	150 1/16W	[M]
R539	ERJ3GEYJ103V	10K 1/16W	[M]
R541	ERJ3GEYJ683V	68K 1/16W	[M]
R544	ERJ3GEYJ103V	10K 1/16W	[M]
R545	ERJ3GEYJ103V	10K 1/16W	[M]
R546	ERJ3GEYJ472V	4.7K 1/16W	[M]
R547	ERJ3GEYJ223V	22K 1/16W	[M]
R548	ERJ3GEYJ333V	33K 1/16W	[M]
R549	ERJ3GEYJ333V	33K 1/16W	[M]
R550	ERJ3GEYJ103V	10K 1/16W	[M]
R551	ERJ3GEYJ153V	15K 1/16W	[M]
R552	ERJ3GEYJ223V	22K 1/16W	[M]
R553	ERJ3GEYJ223V	22K 1/16W	[M]
R554	ERJ3GEYJ223V	22K 1/16W	[M]
R555	ERJ3GEYJ223V	22K 1/16W	[M]
R556	ERJ3GEYJ223V	22K 1/16W	[M]
R557	ERJ3GEYJ223V	22K 1/16W	[M]
R558	ERJ3GEYJ223V	22K 1/16W	[M]
R559	ERJ3GEYJ223V	22K 1/16W	[M]
R560	ERJ3GEYJ472V	4.7K 1/16W	[M]
R561	ERJ3GEYJ123V	12K 1/16W	[M]
R562	ERJ3GEYJ472V	4.7K 1/16W	[M]
R563	ERJ3GEYJ223V	22K 1/16W	[M]
R564	ERJ3GEYJ333V	33K 1/16W	[M]
R565	ERJ3GEYJ333V	33K 1/16W	[M]
R566	ERJ3GEYJ153V	15K 1/16W	[M]
R567	ERJ3GEYJ103V	10K 1/16W	[M]
R568	ERJ3GEYJ123V	12K 1/16W	[M]
R569	ERJ3GEYJ472V	4.7K 1/16W	[M]
R570	ERJ3GEYJ223V	22K 1/16W	[M]
R571	ERJ3GEYJ223V	22K 1/16W	[M]
R572	ERJ3GEYJ223V	22K 1/16W	[M]
R573	ERJ3GEYJ223V	22K 1/16W	[M]
R574	ERJ3GEYJ223V	22K 1/16W	[M]
R575	ERJ3GEYJ273V	27K 1/16W	[M]
R576	ERJ3GEYJ473V	47K 1/16W	[M]
R577	ERJ3GEYJ473V	47K 1/16W	[M]
R578	ERJ3GEYJ273V	27K 1/16W	[M]
R579	ERJ3GEYJ471V	470 1/16W	[M]
R580	ERJ3GEYJ563V	56K 1/16W	[M]
R581	ERJ3GEYJ102V	1K 1/16W	[M]
R585	ERJ3GEYJ183V	18K 1/16W	[M]
R586	ERJ3GEYJ472V	4.7K 1/16W	[M]
R587	ERJ3GEYJ472V	4.7K 1/16W	[M]
R592	ERJ3GEYJ223V	22K 1/16W	[M]
R593	ERJ3GEYJ102V	1K 1/16W	[M]
R594	ERJ3GEYJ103V	10K 1/16W	[M]
R595	ERJ3GEYJ104V	100K 1/16W	[M]
R596	ERJ3GEYJ332V	3.3K 1/16W	[M]
R597	ERJ3GEYJ332V	3.3K 1/16W	[M]
R598	ERJ3GEYJ103V	10K 1/16W	[M]
R599	ERJ3GEYJ103V	10K 1/16W	[M]
R605	ERJ3GEYJ223V	22K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R606	ERJ3GEYJ223V	22K 1/16W	[M]
R607	ERJ3GEYJ103V	10K 1/16W	[M]
R608	ERJ3GEYJ103V	10K 1/16W	[M]
R609	ERJ3GEYJ563V	56K 1/16W	[M]
R610	ERJ3GEYJ563V	56K 1/16W	[M]
R611	ERJ3GEYJ472V	4.7K 1/16W	[M]
R612	ERJ3GEYJ222V	2.2K 1/16W	[M]
R613	ERJ3GEYJ182V	1.8K 1/16W	[M]
R614	ERJ3GEYJ182V	1.8K 1/16W	[M]
R616	ERJ3GEYJ471V	470 1/16W	[M]
R618	ERJ3GEYJ103V	10K 1/16W	[M]
R620	ERJ3GEYJ223V	22K 1/16W	[M]
R622	ERJ3GEYJ183V	18K 1/16W	[M]
R624	ERJ3GEYJ223V	22K 1/16W	[M]
R631	ERJ3GEYJ180V	18 1/16W	[M]
R632	ERJ3GEYJ180V	18 1/16W	[M]
R633	ERJ3GEYJ390V	39 1/16W	[M]
R634	ERJ3GEYJ390V	39 1/16W	[M]
R635	ERJ3GEYJ100V	10 1/16W	[M]
R636	ERJ3GEYJ100V	10 1/16W	[M]
R651	ERJ3GEYJ122V	1.2K 1/16W	[M]
R652	ERJ3GEYJ122V	1.2K 1/16W	[M]
R653	ERJ3GEY0R00V	0 1/16W	[M]
R654	ERJ3GEYJ223V	22K 1/16W	[M]
R658	ERJ3GEYJ332V	3.3K 1/16W	[M]
R662	ERJ3GEYJ102V	1K 1/16W	[M]
R669	ERJ3GEYJ102V	1K 1/16W	[M]
R670	ERJ3GEYJ102V	1K 1/16W	[M]
R675	ERJ3GEYJ102V	1K 1/16W	[M]
R676	ERJ3GEYJ102V	1K 1/16W	[M]
R677	ERJ3GEYJ273V	27K 1/16W	[M]
R678	ERJ3GEYJ273V	27K 1/16W	[M]
R679	ERJ3GEYJ223V	22K 1/16W	[M]
R680	ERJ3GEYJ183V	18K 1/16W	[M]
R683	ERJ3GEYJ104V	100K 1/16W	[M]
R684	ERJ3GEYJ103V	10K 1/16W	[M]
R687	ERJ3GEYJ102V	1K 1/16W	[M]
R689	ERJ3GEYJ273V	27K 1/16W	[M]
R690	ERJ3GEYJ273V	27K 1/16W	[M]
R691	ERJ3GEYJ473V	47K 1/16W	[M]
R692	ERJ3GEYJ102V	1K 1/16W	[M]
R693	ERJ3GEYJ102V	1K 1/16W	[M]
R694	ERJ3GEYJ102V	1K 1/16W	[M]
R695	ERJ3GEYJ102V	1K 1/16W	[M]
R696	ERJ3GEYJ122V	1.2K 1/16W	[M]
R697	ERJ3GEYJ102V	1K 1/16W	[M]
R698	ERJ3GEYJ102V	1K 1/16W	[M]
R699	ERJ3GEYJ221V	220 1/16W	[M]
R702	ERJ3GEYJ224V	220K 1/16W	[M]
R703	ERJ3GEYJ393V	39K 1/16W	[M]
R704	ERJ3GEYJ102V	1K 1/16W	[M]
R705	ERJ3GEYJ153V	15K 1/16W	[M]
R707	ERJ3GEYJ273V	27K 1/16W	[M]
R731	ERJ3GEYJ471V	470 1/16W	[M]
R732	ERJ3GEYJ103V	10K 1/16W	[M]
R733	ERJ3GEYJ472V	4.7K 1/16W	[M]
R734	ERJ3GEYJ102V	1K 1/16W	[M]
R735	ERJ3GEYJ472V	4.7K 1/16W	[M]
R736	ERJ3GEYJ101V	100 1/16W	[M]
R737	ERJ3GEYJ473V	47K 1/16W	[M]
R738	ERJ3GEYJ223V	22K 1/16W	[M]
R739	ERJ3GEYJ223V	22K 1/16W	[M]
R740	ERJ3GEYJ824V	820K 1/16W	[M]
R741	ERJ3GEYJ824V	820K 1/16W	[M]
R742	ERJ3GEYJ103V	10K 1/16W	[M]
R743	ERJ3GEYJ103V	10K 1/16W	[M]
R744	ERJ3GEYJ474V	470K 1/16W	[M]
R745	ERJ3GEYJ474V	470K 1/16W	[M]
R761	ERJ3GEYJ273V	27K 1/16W	[M]
R762	ERJ3GEYJ273V	27K 1/16W	[M]
R771	ERJ3GEYJ472V	4.7K 1/16W	[M]
R772	ERJ3GEYJ472V	4.7K 1/16W	[M]
R776	ERJ3GEYJ183V	18K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R777	ERJ3GEYJ472V	4.7K 1/16W	[M]
R801	ERJ3GEYJ681V	680 1/16W	[M]
R803	ERJ3GEYJ102V	1K 1/16W	[M]
R804	ERJ3GEYJ103V	10K 1/16W	[M]
R805	ERJ3GEYJ221V	220 1/16W	[M]
R806	ERJ3GEYJ221V	220 1/16W	[M]
R807	ERJ3GEYJ103V	10K 1/16W	[M]
R808	ERJ3GEYJ103V	10K 1/16W	[M]
R809	ERJ3GEYJ103V	10K 1/16W	[M]
R810	ERJ3GEYJ103V	10K 1/16W	[M]
R811	ERJ3GEYJ102V	1K 1/16W	[M]
R812	ERJ3GEYJ333V	33K 1/16W	[M]
R813	ERJ3GEYJ103V	10K 1/16W	[M]
R814	ERJ3GEYJ473V	47K 1/16W	[M]
R815	ERJ3GEYJ333V	33K 1/16W	[M]
R816	ERJ3GEYJ221V	220 1/16W	[M]
R818	ERJ3GEYJ684V	680K 1/16W	[M]
R819	ERJ3GEYJ473V	47K 1/16W	[M]
R821	ERJ3GEYJ221V	220 1/16W	[M]
R822	ERJ3GEYJ102V	1K 1/16W	[M]
R824	ERJ3GEYJ221V	220 1/16W	[M]
R826	ERJ3GEYJ221V	220 1/16W	[M]
R827	ERJ3GEYJ473V	47K 1/16W	[M]
R828	ERJ3GEYJ221V	220 1/16W	[M]
R829	ERJ3GEYJ102V	1K 1/16W	[M]
R830	ERJ3GEYJ221V	220 1/16W	[M]
R831	ERJ3GEYJ221V	220 1/16W	[M]
R832	ERJ3GEYJ221V	220 1/16W	[M]
R833	ERJ3GEYJ102V	1K 1/16W	[M]
R834	ERJ3GEYJ221V	220 1/16W	[M]
R835	ERJ3GEYJ102V	1K 1/16W	[M]
R836	ERJ3GEYJ102V	1K 1/16W	[M]
R840	ERJ3GEYJ102V	1K 1/16W	[M]
R841	ERJ3GEYJ473V	47K 1/16W	[M]
R842	ERJ3GEYJ102V	1K 1/16W	[M]
R846	ERJ3GEYJ473V	47K 1/16W	[M]
R847	ERJ3GEYJ331V	330 1/16W	[M]
R848	ERJ3GEYJ331V	330 1/16W	[M]
R850	ERJ3GEYJ153V	15K 1/16W	[M]
R851	ERJ3GEYJ153V	15K 1/16W	[M]
R852	ERJ3GEYJ101V	100 1/16W	[M]
R853	ERJ3GEYJ221V	220 1/16W	[M]
R854	ERJ3GEYJ221V	220 1/16W	[M]
R855	ERJ3GEYJ101V	100 1/16W	[M]
R856	ERJ3GEYJ331V	330 1/16W	[M]
R857	ERJ3GEYJ331V	330 1/16W	[M]
R858	ERJ3GEYJ104V	100K 1/16W	[M]
R859	ERJ3GEYJ331V	330 1/16W	[M]
R860	ERJ3GEYJ331V	330 1/16W	[M]
R861	ERJ3GEYJ103V	10K 1/16W	[M]
R862	ERJ3GEYJ103V	10K 1/16W	[M]
R863	ERJ3GEYJ103V	10K 1/16W	[M]
R864	ERJ3GEYJ221V	220 1/16W	[M]
R865	ERJ3GEYJ333V	33K 1/16W	[M]
R866	ERJ3GEYJ221V	220 1/16W	[M]
R867	ERJ3GEYJ333V	33K 1/16W	[M]
R868	ERJ3GEYJ331V	330 1/16W	[M]
R869	ERJ3GEYJ102V	1K 1/16W	[M]
R876	ERJ3GEYJ1R0V	1 1/16W	[M]
R877	ERJ3GEYJ103V	10K 1/16W	[M]
R879	ERJ3GEYJ103V	10K 1/16W	[M]
R882	ERJ3GEYJ1R0V	1 1/16W	[M]
R883	ERJ3GEYJ103V	10K 1/16W	[M]
R886	ERJ3GEYJ331V	330 1/16W	[M]
R887	ERJ3GEYJ331V	330 1/16W	[M]
R888	ERJ3GEYJ101V	100 1/16W	[M]
R889	ERJ3GEYJ103V	10K 1/16W	[M]
R890	ERJ3GEYJ102V	1K 1/16W	[M]
R892	ERJ3GEYJ1R0V	1 1/16W	[M]
R893	ERJ3GEYJ221V	220 1/16W	[M]
R894	ERJ3GEYJ473V	47K 1/16W	[M]
R896	ERJ3GEYJ223V	22K 1/16W	[M]
R897	ERJ3GEYJ223V	22K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R898	ERJ3GEYJ472V	4.7K 1/16W	[M]
R899	ERJ3GEYJ104V	100K 1/16W	[M]
R1120	ERDS1TJ474B	470K 1W	[M] △
R1150	ERJ6GEYJ270V	27 1/10W	[M]
R1151	ERJ6GEYJ153V	15K 1/10W	[M]
R1152	ERJ6GEYJ153V	15K 1/10W	[M]
R1153	ERJ6GEYJ270V	27 1/10W	[M]
R1154	ERJ6GEYF272V	2.7K 1/10W	[M]
R1155	ERJ6GEYJ223V	22K 1/10W	[M]
R1157	ERJ6GEYJ681V	680 1/10W	[M]
R1158	ERDS1FVJ224T	220K 1/2W	[M]
R1160	ERX2SJR5P	1.5 2W	[M]
R1161	ERX2SJR39P	0.39 2W	[M]
R1200	ERJ6GEYF393V	39K 1/10W	[M]
R1201	ERJ6GEY0R00V	0 1/10W	[M]
R1203	ERJ6GEYJ560V	56 1/10W	[M]
R1204	ERJ6GEYF472V	4.7K 1/10W	[M]
R1205	ERJ6GEY0R00V	0 1/10W	[M]
R1206	ERJ6GEYF242V	2.4K 1/10W	[M]
R1207	ERJ6GEYJ103V	10K 1/10W	[M]
R1208	ERJ6GEYJ241V	240 1/10W	[M]
R1209	ERJ6GEYJ102V	1K 1/10W	[M]
R1210	ERJ6GEYF362V	3.6K 1/10W	[M]
R1212	ERJ6GEYJ103V	10K 1/10W	[M]
R1213	ERJ6GEYJ222V	2.2K 1/10W	[M]
R1214	ERJ6GEYJ472V	4.7K 1/10W	[M]
R1509	ERJ3RED820V	82 3W	[M]
R1510	ERJ3RBD182V	1.8K 3W	[M]
R1511	ERJ3RBD202V	2K 3W	[M]
R1518	ERJ3GEYJ472V	4.7K 1/16W	[M]
R1519	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2501	ERJ3GEY0R00V	0 1/16W	[M]
R2502	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2504	ERJ3GEYJ223V	22K 1/16W	[M]
R2505	ERJ3GEYJ822V	8.2K 1/16W	[M]
R2506	ERJ3GEYJ333V	33K 1/16W	[M]
R2507	ERJ3GEYJ221V	220 1/16W	[M]
R2508	ERJ3GEYJ221V	220 1/16W	[M]
R2509	ERJ3GEYJ221V	220 1/16W	[M]
R2510	ERJ3GEYJ221V	220 1/16W	[M]
R2513	ERJ3GEY0R00V	0 1/16W	[M]
R2514	ERJ8GEY0R00V	0 1/8W	[M]
R2515	ERJ3GEY0R00V	0 1/16W	[M]
R2516	ERJ3GEY0R00V	0 1/16W	[M]
R2517	ERJ3GEYF472V	4.7K 1/16W	[M]
R2518	ERJ3GEYF332V	3.3K 1/16W	[M]
R2519	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2520	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2522	ERJ3GEYJ104V	100K 1/16W	[M]
R2523	ERJ3GEYJ224V	220K 1/16W	[M]
R2526	ERJ3GEYJ224V	220K 1/16W	[M]
R2527	ERJ3GEYJ224V	220K 1/16W	[M]
R2528	ERJ3GEYJ473V	47K 1/16W	[M]
R2529	ERJ3GEYJ473V	47K 1/16W	[M]
R2530	ERJ3GEYJ473V	47K 1/16W	[M]
R2531	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2532	ERJ3GEYJ182V	1.8K 1/16W	[M]
R2533	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2534	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2535	ERJ3GEYJ473V	47K 1/16W	[M]
R2536	ERJ3GEYJ473V	47K 1/16W	[M]
R2537	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2538	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2539	ERJ3GEYF331V	330 1/16W	[M]
R2541	ERJM1WSF10MU	0.01 1W	[M]
R2542	ERJM1WSF10MU	0.01 1W	[M]
R2546	ERJ3GEYJ473V	47K 1/16W	[M]
R2547	ERJ3GEYJ473V	47K 1/16W	[M]
R2548	ERJ3GEYJ473V	47K 1/16W	[M]
R2549	ERJ3GEYJ102V	1K 1/16W	[M]
R2550	ERJ3GEYJ223V	22K 1/16W	[M]
R2551	ERJ3GEYJ223V	22K 1/16W	[M]
R2552	ERJ3GEYJ223V	22K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2553	ERJ3GEYJ332V	3.3K 1/16W	[M]
R2555	ERJ3GEYJ224V	220K 1/16W	[M]
R2556	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2557	ERJ3GEYJ472V	4.7K 1/16W	[M]
R2558	ERJ3GEYJ103V	10K 1/16W	[M]
R2559	ERJ3GEYJ103V	10K 1/16W	[M]
R2560	ERJ3GEYJ103V	10K 1/16W	[M]
R2561	ERJ3GEYJ103V	10K 1/16W	[M]
R2562	ERJ3GEYJ103V	10K 1/16W	[M]
R2563	ERJ3GEYJ103V	10K 1/16W	[M]
R2565	ERJ3GEYJ101V	100 1/16W	[M]
R2567	ERJ3GEYJ101V	100 1/16W	[M]
R2568	ERJ3GEYJ102V	1K 1/16W	[M]
R2571	ERJ3GEYJ823V	82K 1/16W	[M]
R2572	ERJ3GEYJ823V	82K 1/16W	[M]
R2573	ERJ3GEYJ104V	100K 1/16W	[M]
R2574	ERJ3GEYJ224V	220K 1/16W	[M]
R2576	ERJ3GEYJ333V	33K 1/16W	[M]
R2577	ERJ1TYJ220U	22 1/8W	[M]
R2578	ERJ1TYJ220U	22 1/8W	[M]
R2579	ERJ3GEYJ103V	10K 1/16W	[M]
R2580	ERJ3GEYJ103V	10K 1/16W	[M]
R2581	ERJ1TYJ220U	22 1/8W	[M]
R2583	ERJ1TYJ220U	22 1/8W	[M]
R2586	ERJ1TYJ220U	22 1/8W	[M]
R2587	ERJ1TYJ220U	22 1/8W	[M]
R2589	ERJ3GEYJ823V	82K 1/16W	[M]
R2590	ERJ3GEYJ104V	100K 1/16W	[M]
R2591	ERJ3GEYJ683V	68K 1/16W	[M]
R2592	ERJ3GEYJ104V	100K 1/16W	[M]
R2593	ERJ3GEYJ223V	22K 1/16W	[M]
R2595	ERJ3GEYJ103V	10K 1/16W	[M]
R2596	ERJ3GEYJ103V	10K 1/16W	[M]
R2597	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2598	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2599	ERJ3GEYJ473V	47K 1/16W	[M]
R2601	ERJ8GEYJ822V	8.2K 1/8W	[M]
R2602	ERJ8GEYJ822V	8.2K 1/8W	[M]
R2603	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2604	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2605	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2606	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2607	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2608	ERJ3GEYJ562V	5.6K 1/16W	[M]
R2702	ERG2SJ683P	68K 2W	[M] △
R2703	ERJ6GEYJ681V	680 1/10W	[M]
R2704	ERX2LJ68MP	0.68 2W	[M]
R2706	ERJ6GEYJ104V	100K 1/10W	[M]
R2707	ERJ6GEYJ104V	100K 1/10W	[M]
R2708	ERJ6GEYJ332V	3.3K 1/10W	[M]
R2709	ERJ6GEYJ222V	2.2K 1/10W	[M]
R2710	ERJ6GEYJ103V	10K 1/10W	[M]
R2711	ERJ6GEYJ220V	22 1/10W	[M]
R2712	ERJ6GEYJ222V	2.2K 1/10W	[M]
R2715	ERJ3GEYJ333V	33K 1/16W	[M]
R2717	ERJ3GEYF472V	4.7K 1/16W	[M]
R2718	ERJ3GEYJ104V	100K 1/16W	[M]
R2719	ERJ3GEYJ103V	10K 1/16W	[M]
R2720	ERJ3GEYJ103V	10K 1/16W	[M]
R2721	ERJ3GEYJ471V	470 1/16W	[M]
R2722	ERJ3GEYJ103V	10K 1/16W	[M]
R2727	ERJ3GEYJ103V	10K 1/16W	[M]
R2729	ERJ6GEYJ122V	1.2K 1/10W	[M]
R2731	ERJ3GEYF562V	5.6K 1/16W	[M]
R2732	ERJ3GEYF562V	5.6K 1/16W	[M]
R2733	ERDS1FVJ182T	1.8K 1/2W	[M]
R2734	ERDS1FVJ182T	1.8K 1/2W	[M]
R2736	ERDS1FVJ392T	3.9K 1/2W	[M]
R2737	ERJ3GEYJ102V	1K 1/16W	[M]
R2738	ERJ3GEYJ123V	12K 1/16W	[M]
R2739	ERJ3GEYJ222V	2.2K 1/16W	[M]
R2741	ERJ3GEYJ682V	6.8K 1/16W	[M]
R2742	ERJ3GEYJ223V	22K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R2743	ERJ3GEYJ824V	820K 1/16W	[M]
R2744	ERJ3GEYJ561V	560 1/16W	[M]
R2745	ERJ3GEYJ103V	10K 1/16W	[M]
R2746	ERJ3GEYF562V	5.6K 1/16W	[M]
R2747	ERJ3GEYF562V	5.6K 1/16W	[M]
R2748	ERJ3GEYF823V	82K 1/16W	[M]
R2754	ERJ3GEYJ563V	56K 1/16W	[M]
R2755	ERJ3GEYJ103V	10K 1/16W	[M]
R2756	ERJ3GEYJ103V	10K 1/16W	[M]
R2757	ERJ3GEYJ103V	10K 1/16W	[M]
R2758	ERJ3GEYJ185V	1.8M 1/16W	[M]
R2759	ERJ3GEYJ104V	100K 1/16W	[M]
R2760	ERJ3GEYJ103V	10K 1/16W	[M]
R2763	ERJ3GEYF222V	2.2K 1/16W	[M]
R2765	ERJ3GEYF223V	22K 1/16W	[M]
R2766	ERJ3GEYF182V	1.8K 1/16W	[M]
R2770	ERJ8GEYJ472V	4.7K 1/8W	[M]
R2771	ERJ3GEYF473V	47K 1/16W	[M]
R2772	ERG2SJ222P	2.2K 2W	[M]
R2773	ERG1SJ122E	1.2K 1W	[M]
R2777	ERJ3GEY0R00V	0 1/16W	[M]
R2778	DOHB272ZA002	2.7K 3W	[M]
R2779	DOHB223ZA002	22K 3W	[M]
R2780	ERJ8GEYJ472V	4.7K 1/8W	[M]
R2781	ERJ3GEYJ105V	1M 1/16W	[M]
R2782	ERJ3GEYJ105V	1M 1/16W	[M]
R2783	ERJ3GEYJ105V	1M 1/16W	[M]
R2784	ERJ6GEYJ681V	680 1/10W	[M]
R2785	ERG2SJ222P	2.2K 2W	[M]
R2786	ERG2SJ222P	2.2K 2W	[M]
R2787	ERJ3GEYF822V	8.2K 1/16W	[M]
R2788	ERJ3GEYF243V	24K 1/16W	[M]
R2789	ERJ3GEYJ272V	2.7K 1/16W	[M]
R2793	ERJ3GEYJ103V	10K 1/16W	[M]
R2794	ERJ3GEYJ101V	100 1/16W	[M]
R2795	ERJ8GEY0R00V	0 1/8W	[M]
R3001	ERJ3GEYJ102V	1K 1/16W	[M]
R3003	ERJ3GEYJ102V	1K 1/16W	[M]
R3006	ERJ3GEY0R00V	0 1/16W	[M]
R3007	ERJ3GEYJ330V	33 1/16W	[M]
R3009	ERJ3GEYJ104V	100K 1/16W	[M]
R3055	ERJ3GEYJ750V	75 1/16W	[M]
R3057	ERJ3GEYJ750V	75 1/16W	[M]
R3059	ERJ3GEYJ750V	75 1/16W	[M]
R3901	ERJ3GEYF750V	75 1/16W	[M]
R3902	ERJ3GEYF750V	75 1/16W	[M]
R3903	ERJ3GEYF750V	75 1/16W	[M]
R3912	ERJ3GEYJ103V	10K 1/16W	[M]
R3913	ERJ3GEYJ103V	10K 1/16W	[M]
R3914	ERJ3GEYJ471V	470 1/16W	[M]
R3918	ERJ3GEYJ471V	470 1/16W	[M]
R3919	ERJ3GEYF750V	75 1/16W	[M]
R3920	ERJ3GEYF750V	75 1/16W	[M]
R3921	ERJ3GEYF750V	75 1/16W	[M]
R3922	ERJ3GEYJ471V	470 1/16W	[M]
R3923	ERJ3GEYJ471V	470 1/16W	[M]
R3924	ERDS2TJ221T	220 1/4W	[M]
R3925	ERJ3GEYF750V	75 1/16W	[M]
R3926	ERJ3GEYF750V	75 1/16W	[M]
R3927	ERJ3GEYF750V	75 1/16W	[M]
R3928	ERJ3GEYJ750V	75 1/16W	[M]
R3929	ERJ3GEYJ750V	75 1/16W	[M]
R3930	ERJ3GEYJ750V	75 1/16W	[M]
R3932	ERJ3GEYJ750V	75 1/16W	[M]
R3934	ERJ3GEYJ750V	75 1/16W	[M]
R3935	ERJ3GEYJ750V	75 1/16W	[M]
R3975	ERJ3GEYJ101V	100 1/16W	[M]
R3976	ERJ3GEYJ101V	100 1/16W	[M]
R3983	ERJ3GEYJ103V	10K 1/16W	[M]
R3984	ERJ3GEYJ103V	10K 1/16W	[M]
R3987	ERJ3GEYJ473V	47K 1/16W	[M]
R3988	ERJ3GEYJ102V	1K 1/16W	[M]
R3989	ERJ3GEYJ102V	1K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R3990	ERJ3GEYJ473V	47K 1/16W	[M]
R3991	ERJ3GEYJ473V	47K 1/16W	[M]
R3992	ERJ3GEYJ102V	1K 1/16W	[M]
R3993	ERJ3GEYJ102V	1K 1/16W	[M]
R3994	ERJ3GEYJ473V	47K 1/16W	[M]
R4003	ERJ3GEYJ821V	820 1/16W	[M]
R4004	ERJ3GEYJ103V	10K 1/16W	[M]
R4005	ERJ3GEYJ821V	820 1/16W	[M]
R4006	ERJ3GEYJ333V	33K 1/16W	[M]
R4010	ERJ3GEYJ473V	47K 1/16W	[M]
R4011	ERJ3GEYJ473V	47K 1/16W	[M]
R4013	ERJ3GEYJ333V	33K 1/16W	[M]
R4046	DOHB682ZA002	6.8K 3W	[M]
R4047	DOHB682ZA002	6.8K 3W	[M]
R4055	ERJ3RBD123V	12K 3W	[M]
R4057	ERJ3RBD123V	12K 3W	[M]
R4066	DOHB103ZA002	10K 3W	[M]
R4067	DOHB103ZA002	10K 3W	[M]
R4071	ERJ3GEYJ473V	47K 1/16W	[M]
R4074	ERJ3GEYJ473V	47K 1/16W	[M]
R4076	ERJ3GEYJ821V	820 1/16W	[M]
R4077	ERJ3GEYJ101V	100 1/16W	[M]
R4078	ERJ3GEYJ272V	2.7K 1/16W	[M]
R4079	ERJ3GEYJ272V	2.7K 1/16W	[M]
R4080	ERJ3GEYJ101V	100 1/16W	[M]
R4081	ERJ3GEYJ821V	820 1/16W	[M]
R4088	ERJ3GEYJ272V	2.7K 1/16W	[M]
R4089	ERJ3GEYJ272V	2.7K 1/16W	[M]
R4090	ERJ3GEYJ121V	120 1/16W	[M]
R4093	ERJ3GEYJ121V	120 1/16W	[M]
R4094	ERJ3GEYJ223V	22K 1/16W	[M]
R7304	ERJ3GEYJ101V	100 1/16W	[M] EB
R7305	ERJ3GEYF101V	100 1/16W	[M] EG
R7306	ERJ3GEYF392V	3.9K 1/16W	[M] EG
R7307	ERJ3GEY0R00V	0 1/16W	[M] EB
R7307	ERJ3GEYJ472V	4.7K 1/16W	[M] EG
R7308	ERJ3GEYJ752V	7.5K 1/16W	[M] EG
R7312	ERJ3GEYF221V	220 1/16W	[M] EB
R7312	ERJ3GEYF682V	6.8K 1/16W	[M] EG
R7313	ERJ3GEYF221V	220 1/16W	[M] EB
R7313	ERJ3GEYF682V	6.8K 1/16W	[M] EG
R7317	ERJ3GEY0R00V	0 1/16W	[M]
R7318	ERJ3GEYF332V	3.3K 1/16W	[M] EG
R7319	ERJ3GEY0R00V	0 1/16W	[M]
R7320	ERJ3GEYF332V	3.3K 1/16W	[M] EG
R7321	ERJ3GEYJ562V	5.6K 1/16W	[M] EG
R7322	ERJ3GEY0R00V	0 1/16W	[M] EB
R7323	ERJ3GEYJ562V	5.6K 1/16W	[M] EG
R7324	ERJ3GEYJ221V	220 1/16W	[M]
R7325	ERJ3GEYJ221V	220 1/16W	[M]
R7326	ERJ3GEY0R00V	0 1/16W	[M] EB
R7326	ERJ3GEYJ122V	1.2K 1/16W	[M] EG
R7401	ERJ3GEYJ104V	100K 1/16W	[M]
R7402	ERJ3GEYJ103V	10K 1/16W	[M]
R7403	ERJ3GEYJ153V	15K 1/16W	[M]
R7404	ERJ3GEYJ223V	22K 1/16W	[M]
R7405	ERDS2TJ471T	470 1/4W	[M]
R7406	ERJ3GEYJ474V	470K 1/16W	[M]
R7407	ERJ3GEYJ103V	10K 1/16W	[M]
R7408	ERJ3GEYJ153V	15K 1/16W	[M]
R7409	ERJ3GEYJ101V	100 1/16W	[M]
R7411	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7412	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7444	ERJ3RED300V	30 3W	[M]
R7445	ERJ3RBD682V	6.8K 3W	[M]
R7446	ERJ3RBD202V	2K 3W	[M]
R7448	ERJ3GEYJ182V	1.8K 1/16W	[M]
R7501	ERJ3GEYJ102V	1K 1/16W	[M]
R7502	ERJ3GEYJ102V	1K 1/16W	[M]
R7502	ERJ3GEYJ392V	3.9K 1/16W	[M]
R7503	ERJ3GEYJ104V	100K 1/16W	[M]
R7504	ERJ3GEYJ102V	1K 1/16W	[M]
R7504	ERJ3GEYJ750V	75 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R7505	ERJ3GEYF153V	15K 1/16W	[M]
R7505	ERJ3GEYJ750V	75 1/16W	[M]
R7506	ERJ3GEYJ104V	100K 1/16W	[M]
R7506	ERJ3GEYJ750V	75 1/16W	[M]
R7507	ERJ3GEYF152V	1.5K 1/16W	[M]
R7507	ERJ3GEYJ470V	47 1/16W	[M]
R7508	ERJ3GEYF562V	5.6K 1/16W	[M]
R7508	ERJ3RBD272V	2.7K 3W	[M]
R7509	ERJ3GEYJ101V	100 1/16W	[M]
R7509	ERJ3RBD562V	5.6K 3W	[M]
R7510	ERJ3GEYJ101V	100 1/16W	[M]
R7510	ERJ3RBD163V	16K 3W	[M]
R7511	ERJ3RBD562V	5.6K 3W	[M]
R7512	ERJ3GEYJ101V	100 1/16W	[M]
R7513	ERJ3GEYJ102V	1K 1/16W	[M]
R7514	ERJ3GEYJ102V	1K 1/16W	[M]
R7514	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7515	ERJ3GEY0R00V	0 1/16W	[M]
R7516	ERJ3GEY0R00V	0 1/16W	[M]
R7517	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7518	ERJ3RBD273V	27K 3W	[M]
R7520	ERJ3GEYJ103V	10K 1/16W	[M]
R7521	ERJ3GEYJ103V	10K 1/16W	[M]
R7522	ERJ3GEYJ473V	47K 1/16W	[M]
R7523	ERJ3GEY0R00V	0 1/16W	[M]
R7527	ERJ3GEYJ101V	100 1/16W	[M]
R7528	ERJ3GEYJ101V	100 1/16W	[M]
R7529	ERJ3GEYJ101V	100 1/16W	[M]
R7531	ERJ3GEYJ104V	100K 1/16W	[M]
R7532	ERJ3GEYJ332V	3.3K 1/16W	[M]
R7533	ERJ3GEY0R00V	0 1/16W	[M]
R7534	ERJ3GEYJ103V	10K 1/16W	[M]
R7535	ERJ3GEYJ101V	100 1/16W	[M]
R7536	ERJ3GEYJ101V	100 1/16W	[M]
R7537	ERJ3GEYJ101V	100 1/16W	[M]
R7538	ERJ3GEY0R00V	0 1/16W	[M]
R7543	ERJ3GEYJ101V	100 1/16W	[M]
R7544	ERJ3GEYJ101V	100 1/16W	[M]
R7548	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7549	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7551	ERJ3GEYJ121V	120 1/16W	[M]
R7552	ERJ3RBD272V	2.7K 3W	[M]
R7553	ERJ3RBD163V	16K 3W	[M]
R7554	ERJ3GEYJ121V	120 1/16W	[M]
R7555	ERJ3GEYJ102V	1K 1/16W	[M]
R7556	ERJ3GEYJ102V	1K 1/16W	[M]
R7558	ERJ3GEYJ202V	2K 1/16W	[M]
R7559	ERJ3GEYJ202V	2K 1/16W	[M]
R7561	ERJ3GEYJ101V	100 1/16W	[M]
R7562	ERJ3GEYJ101V	100 1/16W	[M]
R7564	ERJ3GEYJ101V	100 1/16W	[M]
R7565	ERJ3GEYJ101V	100 1/16W	[M]
R7566	ERJ3GEYJ101V	100 1/16W	[M]
R7567	ERJ3GEYJ101V	100 1/16W	[M]
R7569	ERJ3GEYJ223V	22K 1/16W	[M]
R7570	ERJ3GEYJ392V	3.9K 1/16W	[M]
R7571	ERJ3GEYJ101V	100 1/16W	[M]
R7572	ERJ3GEYJ101V	100 1/16W	[M]
R7576	ERJ3GEYJ102V	1K 1/16W	[M]
R7577	ERJ3GEYJ103V	10K 1/16W	[M]
R7579	ERJ3GEYJ223V	22K 1/16W	[M]
R7582	ERJ3GEYJ104V	100K 1/16W	[M]
R7583	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7584	ERJ3GEYJ473V	47K 1/16W	[M]
R7585	ERJ3GEYJ225V	2.2M 1/16W	[M]
R7586	ERJ3GEYJ273V	27K 1/16W	[M]
R7587	ERJ3GEYJ224V	220K 1/16W	[M]
R7588	ERJ3GEYJ104V	100K 1/16W	[M]
R7589	ERJ3GEYJ221V	220 1/16W	[M]
R7590	ERJ3GEYJ104V	100K 1/16W	[M]
R7597	ERJ3GEYJ822V	8.2K 1/16W	[M]
R7598	ERJ3GEYJ822V	8.2K 1/16W	[M]
R7599	ERJ3GEYJ822V	8.2K 1/16W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R7600	ERJ3GEYJ103V	10K 1/16W	[M]
R7601	ERJ3GEYJ102V	1K 1/16W	[M]
R7606	ERJ3GEYF393V	39K 1/16W	[M]
R7607	ERJ3GEYJ101V	100 1/16W	[M]
R7608	ERJ3GEYF433V	43K 1/16W	[M]
R7612	ERJ3GEYJ562V	5.6K 1/16W	[M]
R7614	ERJ3GEYJ470V	47 1/16W	[M]
R7615	ERJ3GEYJ473V	47K 1/16W	[M]
R7616	ERJ3GEYJ473V	47K 1/16W	[M]
R7617	ERDS2TJ271T	270 1/4W	[M]
R7618	ERDS2TJ1R2T	1.2 1/4W	[M]
R7619	ERJ3GEYJ103V	10K 1/16W	[M]
R7620	ERJ3GEYJ473V	47K 1/16W	[M]
R7621	ERJ3GEYJ104V	100K 1/16W	[M]
R7622	ERJ3GEYJ153V	15K 1/16W	[M]
R7623	ERJ3GEYJ181V	180 1/16W	[M]
R7651	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7653	ERJ3GEYJ101V	100 1/16W	[M]
R7655	ERJ3GEYJ101V	100 1/16W	[M]
R7661	ERJ3GEYJ331V	330 1/16W	[M]
R7662	ERJ3GEYJ331V	330 1/16W	[M]
R7663	ERJ3GEYJ331V	330 1/16W	[M]
R7665	ERJ3GEYJ221V	220 1/16W	[M]
R7666	ERJ3GEYJ101V	100 1/16W	[M]
R7667	ERJ3GEYJ101V	100 1/16W	[M]
R7668	ERJ3GEYJ473V	47K 1/16W	[M]
R7669	ERJ3GEYJ473V	47K 1/16W	[M]
R7671	ERJ3GEYJ472V	4.7K 1/16W	[M]
R7672	ERJ3GEYJ473V	47K 1/16W	[M]
R7673	ERDS1FVJ121T	120 1/2W	[M]
R7674	ERDS1FVJ121T	120 1/2W	[M]
R7811	ERDS2TJ102T	1K 1/4W	[M]
R7815	ERJ3GEYJ471V	470 1/16W	[M]
R7816	ERJ3GEYJ471V	470 1/16W	[M]
K101	ERJ3GEY0R00V	CHIP JUMPER	[M]
K102	ERJ3GEY0R00V	CHIP JUMPER	[M]
K803	ERJ3GEY0R00V	CHIP JUMPER	[M]
K3001	ERJ3GEY0R00V	CHIP JUMPER	[M]
K3002	ERJ3GEY0R00V	CHIP JUMPER	[M]
K3003	ERJ3GEY0R00V	CHIP JUMPER	[M]
K3004	ERJ3GEY0R00V	CHIP JUMPER	[M]
K3005	ERJ3GEY0R00V	CHIP JUMPER	[M]
K3008	ERJ3GEY0R00V	CHIP JUMPER	[M]
K7302	ERJ3GEY0R00V	CHIP JUMPER	[M]
K7303	ERJ3GEY0R00V	CHIP JUMPER	[M] EB
K7305	ERJ3GEY0R00V	CHIP JUMPER	[M]
K7306	ERJ3GEY0R00V	CHIP JUMPER	[M] EG
K7308	ERJ3GEY0R00V	CHIP JUMPER	[M]
K7502	ERJ3GEY0R00V	CHIP JUMPER	[M]
K7808	ERJ3GEY0R00V	CHIP JUMPER	[M]
K7809	ERJ3GEY0R00V	CHIP JUMPER	[M]
		CAPACITORS	
C21	ECJ1VB1H102K	1000P 50V	[M]
C22	ECA1CAK101XB	100 16V	[M]
C23	ECJ1VB1H103K	0.01 50V	[M]
C25	ECJ1VB1H102K	1000P 50V	[M]
C26	ECA1CAK470XB	47 16V	[M]
C27	ECA1CAK100XB	10 16V	[M]
C31	ECJ1VB1A105K	1 10V	[M]
C32	ECA1CAK220XB	22 16V	[M]
C51	ECJ1VB1C104K	0.1 16V	[M]
C52	ECJ1VB1H103K	0.01 50V	[M]
C53	ECJ1VB1H102K	1000P 50V	[M]
C61	ECJ1VB1H103K	0.01 50V	[M]
C114	ECA1CAK100XB	10 16V	[M]
C115	ECJ1VC1H331J	330P 50V	[M]
C116	ECJ1VB1H102K	1000P 50V	[M]
C117	ECA0JAK470XB	47 6.3V	[M]
C118	ECJ1VC1H561J	560P 50V	[M]
C119	ECJ1VC1H470J	47P 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C120	ECJ1VC1H470J	47P 50V	[M]
C121	ECJ1VB1H103K	0.01 50V	[M]
C122	ECJ1VB1H102K	1000P 50V	[M]
C123	ECA0JAK470XB	47 6.3V	[M]
C124	ECJ1VB1A105K	1 10V	[M]
C127	ECJ1VC1H220J	22P 50V	[M]
C128	ECJ1VC1H220J	22P 50V	[M]
C400	ECJ1VB1H103K	0.01 50V	[M]
C401	ECJ1VC1H221J	220P 50V	[M]
C402	ECJ1VC1H221J	220P 50V	[M]
C411	ECJ1VC1H471J	470P 50V	[M]
C412	ECJ1VC1H471J	470P 50V	[M]
C413	ECJ1VC1H471J	470P 50V	[M]
C414	ECJ1VC1H471J	470P 50V	[M]
C425	ECJ1VC1H101J	100P 50V	[M]
C426	ECJ1VC1H101J	100P 50V	[M]
C427	ECJ1VB1A105K	1 10V	[M]
C428	ECJ1VB1A105K	1 10V	[M]
C431	ECJ1VC1H471J	470P 50V	[M]
C432	ECJ1VB1H102K	1000P 50V	[M]
C433	ECJ1VB1A105K	1 10V	[M]
C434	ECA1CAK100XB	10 16V	[M]
C451	ECJ1VC1H471J	470P 50V	[M]
C452	ECJ1VC1H471J	470P 50V	[M]
C453	ECJ1VB1A105K	1 10V	[M]
C454	ECJ1VB1A105K	1 10V	[M]
C461	ECJ1VB1H472K	4700P 50V	[M]
C462	ECJ1VB1H472K	4700P 50V	[M]
C463	ECJ1VB1A105K	1 10V	[M]
C464	ECJ1VB1A105K	1 10V	[M]
C465	ECJ1VB1A105K	1 10V	[M]
C466	ECJ1VB1A105K	1 10V	[M]
C471	ECJ1VB1A105K	1 10V	[M]
C472	ECJ1VB1A105K	1 10V	[M]
C473	ECJ1VC1H471J	470P 50V	[M]
C474	ECJ1VC1H471J	470P 50V	[M]
C480	ECJ1VB1A105K	1 10V	[M]
C481	ECJ1VB1A105K	1 10V	[M]
C484	ECJ1VB1A105K	1 10V	[M]
C485	ECJ1VB1A105K	1 10V	[M]
C487	ECJ1VB1C104K	0.1 16V	[M]
C488	ECJ1VB1C104K	0.1 16V	[M]
C489	ECJ1VB1A105K	1 10V	[M]
C490	ECJ1VC1H470J	47P 50V	[M]
C491	ECJ1VC1H101J	100P 50V	[M]
C492	ECJ1VC1H101J	100P 50V	[M]
C493	ECJ1VC1H470J	47P 50V	[M]
C494	ECJ1VB1A105K	1 10V	[M]
C499	ECJ1VB1H102K	1000P 50V	[M]
C501	ECJ1VB1E223K	0.022 25V	[M]
C502	ECJ1VB1H472K	4700P 50V	[M]
C503	ECJ1VB1H153K	0.015 50V	[M]
C504	ECJ1VB1C473K	0.047 16V	[M]
C505	ECJ1VB1A154K	0.15 10V	[M]
C506	ECJ1VB1E223K	0.022 25V	[M]
C507	ECJ1VB1H472K	4700P 50V	[M]
C508	ECJ1VB1H153K	0.015 50V	[M]
C509	ECJ1VB1C473K	0.047 16V	[M]
C510	ECJ1VB1A154K	0.15 10V	[M]
C511	ECJ1VB1A105K	1 10V	[M]
C512	ECJ1VB1C473K	0.047 16V	[M]
C513	ECJ1VB1C473K	0.047 16V	[M]
C514	ECJ1VB1C473K	0.047 16V	[M]
C515	ECJ1VB1C473K	0.047 16V	[M]
C516	ECJ1VB1A105K	1 10V	[M]
C517	ECJ1VB1A105K	1 10V	[M]
C518	ECJ1VB1A105K	1 10V	[M]
C521	ECJ1VB1C473K	0.047 16V	[M]
C522	ECJ1VB1C473K	0.047 16V	[M]
C523	ECJ1VB1C333K	0.033 16V	[M]
C524	ECJ1VB1E273K	0.027 25V	[M]
C526	ECJ1VB0J474K	0.47 6.3V	[M]
C527	ECJ1VB1A105K	1 10V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C528	ECJ1VB1A105K	1 10V	[M]
C529	ECJ1VB0J474K	0.47 6.3V	[M]
C531	ECJ1VB1E273K	0.027 25V	[M]
C532	ECJ1VB1C333K	0.033 16V	[M]
C533	ECJ1VB1E223K	0.022 25V	[M]
C536	ECJ1VB0J474K	0.47 6.3V	[M]
C538	ECJ1VB1A154K	0.15 10V	[M]
C539	ECJ1VB1C104K	0.1 16V	[M]
C540	ECA1CAK470XB	47 16V	[M]
C541	ECJ1VB1A105K	1 10V	[M]
C542	ECA1HAK4R7XB	4.7 50V	[M]
C543	ECJ1VB0J474K	0.47 6.3V	[M]
C544	ECJ1VB1C104K	0.1 16V	[M]
C545	ECJ1VB1A105K	1 10V	[M]
C546	ECA1HAK4R7XB	4.7 50V	[M]
C547	ECJ1VB1E223K	0.022 25V	[M]
C548	ECJ1VC1H221J	220P 50V	[M]
C549	ECJ1VC1H221J	220P 50V	[M]
C550	ECA1HAK4R7XB	4.7 50V	[M]
C551	ECJ1VB1C823K	0.082 16V	[M]
C552	ECJ1VB1E223K	0.022 25V	[M]
C553	ECJ1VB1A105K	1 10V	[M]
C554	ECJ1VB1A105K	1 10V	[M]
C555	ECJ1VB1A105K	1 10V	[M]
C557	ECJ1VB1H332K	3300P 50V	[M]
C558	ECJ1VB1A154K	0.15 10V	[M]
C559	ECJ1VB1A154K	0.15 10V	[M]
C560	ECJ1VB1H332K	3300P 50V	[M]
C561	ECJ1VB1A105K	1 10V	[M]
C562	ECJ1VB1E223K	0.022 25V	[M]
C563	ECJ1VB1C104K	0.1 16V	[M]
C564	ECJ1VB1C104K	0.1 16V	[M]
C567	ECJ1VB1C473K	0.047 16V	[M]
C568	ECJ1VB1A224K	0.22 10V	[M]
C570	ECJ1VB1C823K	0.082 16V	[M]
C571	ECJ1VB1H103K	0.01 50V	[M]
C573	ECJ1VB1C473K	0.047 16V	[M]
C574	ECJ1VB1A224K	0.22 10V	[M]
C577	ECJ1VC1H470J	47P 50V	[M]
C578	ECJ1VB1C104K	0.1 16V	[M]
C579	ECA1CAK220XB	22 16V	[M]
C580	ECJ1VB1C104K	0.1 16V	[M]
C581	ECJ1VB1C104K	0.1 16V	[M]
C582	ECJ1VB1C104K	0.1 16V	[M]
C583	ECJ1VB1C104K	0.1 16V	[M]
C584	ECJ1VB1C104K	0.1 16V	[M]
C587	ECJ1VB1C104K	0.1 16V	[M]
C588	ECJ1VB1C104K	0.1 16V	[M]
C591	ECJ1VB1H103K	0.01 50V	[M]
C592	ECJ1VB1H103K	0.01 50V	[M]
C593	ECJ1VB1C104K	0.1 16V	[M]
C601	ECA1HAK2R2XB	2.2 50V	[M]
C602	ECA1HAK2R2XB	2.2 50V	[M]
C605	ECA1HAK4R7XB	4.7 50V	[M]
C606	ECA1HAK4R7XB	4.7 50V	[M]
C607	ECJ1VC1H101J	100P 50V	[M]
C608	ECJ1VC1H101J	100P 50V	[M]
C609	ECJ1VC1H220J	22P 50V	[M]
C610	ECJ1VC1H220J	22P 50V	[M]
C611	ECJ1VB1C104K	0.1 16V	[M]
C612	ECJ1VB1C104K	0.1 16V	[M]
C616	ECA1HAK4R7XB	4.7 50V	[M]
C628	ECA1CAK100XB	10 16V	[M]
C631	ECJ1VB1H102K	1000P 50V	[M]
C632	ECJ1VB1H102K	1000P 50V	[M]
C635	ECJ1VB1H103K	0.01 50V	[M]
C636	ECJ1VB1H103K	0.01 50V	[M]
C662	ECA1CAK220XB	22 16V	[M]
C670	ECJ1VB1H103K	0.01 50V	[M]
C672	ECA1CAK100XB	10 16V	[M]
C681	ECA1CAK100XB	10 16V	[M]
C687	ECJ1VB1A334K	0.33 10V	[M]
C690	ECA1CAK220XB	22 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C700	ECJ1VB1H103K	0.01 50V	[M]
C701	ECA1HAK4R7XB	4.7 50V	[M]
C731	ECJ1VB1A105K	1 10V	[M]
C732	ECJ1VB1H103K	0.01 50V	[M]
C733	ECJ1VB1H103K	0.01 50V	[M]
C734	ECJ1VC1H101J	100P 50V	[M]
C735	ECJ1VC1H101J	100P 50V	[M]
C736	ECJ1VB1C104K	0.1 16V	[M]
C737	ECJ1VB1C104K	0.1 16V	[M]
C761	ECJ1VB1H153K	0.015 50V	[M]
C762	ECJ1VB1H153K	0.015 50V	[M]
C771	ECA1CAK100XB	10 16V	[M]
C801	ECA0JAM102XB	1000 6.3V	[M]
C802	ECA0JAK101XB	100 6.3V	[M]
C803	ECJ1VB1C104K	0.1 16V	[M]
C804	ECJ1VB1C104K	0.1 16V	[M]
C805	ECJ1VB1H103K	0.01 50V	[M]
C806	ECA1CAK220XB	22 16V	[M]
C807	ECA1HAK3R3XB	3.3 50V	[M]
C808	ECJ1VB1C473K	0.047 16V	[M]
C809	ECJ1VB1H103K	0.01 50V	[M]
C811	ECJ1VC1H561J	560P 50V	[M]
C833	ECJ1VC1H101J	100P 50V	[M]
C834	ECJ1VC1H101J	100P 50V	[M]
C837	ECJ1VC1H101J	100P 50V	[M]
C891	ECJ1VB1H103K	0.01 50V	[M]
C1122	F1BAF1020020	1000P	[M] △
C1125	ECQU2A104MLC	0.1 100V	[M] △
C1126	F1BAF471A013	470P	[M] △
C1127	F1BAF471A013	470P	[M] △
C1143	ECA2WHG330E	33 450V	[M]
C1150	F2A1V5600013	56 35V	[M]
C1151	F1B3D471A011	470P 2000V	[M]
C1152	ECJ2VC1H101J	100P 50V	[M]
C1153	ECJ2VB1H103K	0.01 50V	[M]
C1154	ECJ2VB1H102K	1000P 50V	[M]
C1155	ECQE6103KF	0.01 630V	[M]
C1157	F2A0J102A551	1000 6.3V	[M]
C1158	F2A0J681A550	680 6.3V	[M]
C1200	ECQV1H104JL3	0.1 50V	[M]
C1201	ECJ1VB1H473K	0.047 50V	[M]
C1203	ECJ1VB1A105K	1 10V	[M]
C1204	ECJ1VB1A105K	1 10V	[M]
C1231	ECJ2VB1H102K	1000P 50V	[M]
C1232	ECJ2VB1H102K	1000P 50V	[M]
C1233	ECJ2VB1H102K	1000P 50V	[M]
C1234	ECJ2VB1H102K	1000P 50V	[M]
C1235	ECJ2VB1H102K	1000P 50V	[M]
C1236	ECJ2VB1H102K	1000P 50V	[M]
C1237	ECJ2VB1H102K	1000P 50V	[M]
C1238	ECJ2VB1H102K	1000P 50V	[M]
C1239	ECJ2VB1H102K	1000P 50V	[M]
C1240	ECJ2VB1H102K	1000P 50V	[M]
C1241	ECJ2VB1H102K	1000P 50V	[M]
C1242	ECJ2VB1H102K	1000P 50V	[M]
C1243	ECJ2VB1H103K	0.01 50V	[M]
C1244	ECJ2VB1H103K	0.01 50V	[M]
C1245	ECJ2VB1H103K	0.01 50V	[M]
C1246	ECJ2VB1H103K	0.01 50V	[M]
C1247	ECJ2VB1H103K	0.01 50V	[M]
C1248	ECJ2VB1H103K	0.01 50V	[M]
C1261	F2A1A1820006	1800 10V	[M]
C1262	F2A1A2210089	220 10V	[M]
C1270	F2A1C6810023	680 16V	[M]
C1272	F2A1E2210050	220 25V	[M]
C1280	F2A1E2210050	220 25V	[M]
C1281	F2A1E2210050	220 25V	[M]
C1282	F2A1C6810023	680 16V	[M]
C1283	F2A1C6810023	680 16V	[M]
C1503	F2A1A6810022	680 10V	[M]
C1504	F2A1E1010067	100 25V	[M]
C1508	ECJ1VB1A105K	1 10V	[M]
C1509	ECJ1VB1H103K	0.01 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C1510	ECJ1VB1A105K	1 10V	[M]
C1511	ECJ1VB1A105K	1 10V	[M]
C1512	ECJ1VB1A105K	1 10V	[M]
C1518	F2A1A1010072	100 10V	[M]
C1520	ECJ1VB1A105K	1 10V	[M]
C1521	ECA1CAM221XB	220P 16V	[M]
C1522	ECJ1VB1A105K	1 10V	[M]
C1523	F2A1A470A388	47 10V	[M]
C1524	F2A1A2210063	220 10V	[M]
C1525	ECJ1VB1C104K	0.1 16V	[M]
C1528	F1K1C105A026	1 16V	[M]
C1535	ECJ1VB1A105K	1 10V	[M]
C1536	F1J0J106A014	10 6.3V	[M]
C1538	ECJ1VB1A105K	1 10V	[M]
C1539	ECJ1VB1A105K	1 10V	[M]
C1540	ECJ1VB1H103K	0.01 50V	[M]
C1541	F2A1E1010067	100 25V	[M]
C2251	ECJ1VB1C104K	0.1 16V	[M]
C2501	ECJ1VC1H101J	100P 50V	[M]
C2502	ECJ1VC1H101J	100P 50V	[M]
C2503	ECA1HAK010XB	1 50V	[M]
C2504	ECJ1VB0J474K	0.47 6.3V	[M]
C2505	ECJ1VB0J474K	0.47 6.3V	[M]
C2506	ECJ1VB0J474K	0.47 6.3V	[M]
C2507	ECJ1VB1C104K	0.1 16V	[M]
C2509	ECQE1684KF	0.68 100V	[M]
C2510	ECQE1684KF	0.68 100V	[M]
C2511	ECQE1684KF	0.68 100V	[M]
C2512	ECQE1684KF	0.68 100V	[M]
C2513	ECQV1H105JL3	1 50V	[M]
C2515	ECQV1H105JL3	1 50V	[M]
C2517	ECQV1H684JL3	0.68 50V	[M]
C2518	ECQV1H684JL3	0.68 50V	[M]
C2520	ECJ1VB1H104K	0.1 50V	[M]
C2521	F2A1C5600011	56 16V	[M]
C2522	F2A1H1000093	10 50V	[M]
C2523	ECJ1VB1A105K	1 10V	[M]
C2525	F2A1C5600011	56 16V	[M]
C2527	F2A1J2210031	220 63V	[M]
C2528	F2A1J2210031	220 63V	[M]
C2529	F2A1J8200009	82 63V	[M]
C2530	F2A1J8200009	82 63V	[M]
C2531	ECA1AAK330XB	33 10V	[M]
C2535	ECJ1VB1C104K	0.1 16V	[M]
C2536	ECJ1VB1H103K	0.01 50V	[M]
C2537	ECJ1VB1H104K	0.1 50V	[M]
C2538	ECJ1VB1H104K	0.1 50V	[M]
C2540	ECJ1VB1H103K	0.01 50V	[M]
C2541	ECJ1VB1H104K	0.1 50V	[M]
C2542	ECJ1VB1H104K	0.1 50V	[M]
C2562	ECA1HAK3R3XB	3.3 50V	[M]
C2563	ECA1HAK3R3XB	3.3 50V	[M]
C2566	ECJ1VB1H102K	1000P 50V	[M]
C2567	ECJ1VB1H102K	1000P 50V	[M]
C2571	F2A1V3300027	33 35V	[M]
C2572	F2A1V3300027	33 35V	[M]
C2573	ECJ1VB1H104K	0.1 50V	[M]
C2574	ECJ1VB1H104K	0.1 50V	[M]
C2575	F2A1V4710036	470 35V	[M]
C2576	F2A1V4710036	470 35V	[M]
C2577	F2A1V4710036	470 35V	[M]
C2578	F2A1V4710036	470 35V	[M]
C2581	ECJ1VB1H104K	0.1 50V	[M]
C2583	ECJ1VB1H104K	0.1 50V	[M]
C2586	ECJ1VB1H104K	0.1 50V	[M]
C2587	ECJ1VB1H104K	0.1 50V	[M]
C2596	ECA1AAK330XB	33 10V	[M]
C2597	ECA1HAK010XB	1 50V	[M]
C2598	ECJ1VB1H102K	1000P 50V	[M]
C2702	F1BAF1020020	1000P	[M] △
C2705	ECQE6103KF	0.01 630V	[M]
C2706	ECQU2A104MLC	0.1 100V	[M] △
C2707	F2A2G1810002	180 400V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C2709	ECJ1VC1H471J	470P 50V	[M]
C2710	ECKE3D821KBP	820P 2000V	[M]
C2711	F2A1V3300027	33 35V	[M]
C2712	ECJ1VB1H102K	1000P 50V	[M]
C2713	ECJ1VB1H102K	1000P 50V	[M]
C2717	F2A1J1520003	1500 63V	[M]
C2718	F2A1J1020041	1000 63V	[M]
C2719	FLJ2E1030004	0.01 250V	[M]
C2720	ECJ1VB1C104K	0.1 16V	[M]
C2721	ECJ1VB1C104K	0.1 16V	[M]
C2722	ECJ1VB1C104K	0.1 16V	[M]
C2741	F2A1V1020084	1000 35V	[M]
C2742	F2A1V1020084	1000 35V	[M]
C2743	F2A1V1510009	150 35V	[M]
C2744	FLJ2E1030004	0.01 250V	[M]
C2745	F2A1V1020084	1000 35V	[M]
C2746	FLJ2E1030004	0.01 250V	[M]
C2754	ECJ1VB1H104K	0.1 50V	[M]
C2755	ECA1CAK220XB	22 16V	[M]
C2756	ECJ1VB1H103K	0.01 50V	[M]
C2757	ECJ1VB1H103K	0.01 50V	[M]
C2759	F2A1V1020084	1000 35V	[M]
C2764	ECJ1VB1H103K	0.01 50V	[M]
C2771	ECJ1VB1C104K	0.1 16V	[M]
C2772	ECA1HAK4R7XB	4.7 50V	[M]
C2773	FLJ2E1030004	0.01 250V	[M]
C2774	FLJ2E332A016	3300P 250V	[M]
C2781	ECJ1VC1H101J	100P 50V	[M]
C2782	ECJ1VB1H391K	390P 50V	[M]
C2783	ECJ1VB1H391K	390P 50V	[M]
C2784	ECJ1VC1H101J	100P 50V	[M]
C2785	ECJ1VC1H470J	47P 50V	[M]
C2786	ECJ1VC1H470J	47P 50V	[M]
C2787	ECJ1VB1H103K	0.01 50V	[M]
C2788	ECJ1VB0J474K	0.47 6.3V	[M]
C2789	ECJ1VB1C104K	0.1 16V	[M]
C2790	ECJ1VB1H102K	1000P 50V	[M]
C2791	ECA1HAK100XB	10 50V	[M]
C2792	ECA0JAK221XB	220 6.3V	[M]
C2793	ECJ1VB1C104K	0.1 16V	[M]
C2794	ECA1CAK330XB	33 16V	[M]
C2795	ECJ1VB1C104K	0.1 16V	[M]
C2796	ECA1EAK100XB	10 25V	[M]
C2797	ECA1CAK100XB	10 16V	[M]
C2798	ECJ1VB1C104K	0.1 16V	[M]
C3001	ECJ1VB1C104K	0.1 16V	[M]
C3002	ECJ1VB1H103K	0.01 50V	[M]
C3003	ECJ1VB1C104K	0.1 16V	[M]
C3004	ECJ1VB1C104K	0.1 16V	[M]
C3005	F2A0J221A024	220 6.3V	[M]
C3006	F2A0J221A024	220 6.3V	[M]
C3007	F2A1A2210103	220 10V	[M]
C3008	F2A1A101A389	100 10V	[M]
C3009	F2A1A2210103	220 10V	[M]
C3010	F2A1A101A389	100 10V	[M]
C3011	ECJ1VB1C104K	0.1 16V	[M]
C3012	F2A1A2210103	220 10V	[M]
C3013	F2A1A101A389	100 10V	[M]
C3014	ECJ1VB1C104K	0.1 16V	[M]
C3015	ECJ1VB1C104K	0.1 16V	[M]
C3016	ECJ1VB1C104K	0.1 16V	[M]
C3018	ECJ1VB1C104K	0.1 16V	[M]
C3020	ECJ1VB1C104K	0.1 16V	[M]
C3022	ECJ1VB1C104K	0.1 16V	[M]
C3024	ECJ1VB0J105K	1 6.3V	[M]
C3025	ECJ1VB1C104K	0.1 16V	[M]
C3026	ECJ1VB0J105K	1 6.3V	[M]
C3027	ECJ1VB1C104K	0.1 16V	[M]
C3028	ECJ1VB0J105K	1 6.3V	[M]
C3029	ECJ1VB1C104K	0.1 16V	[M]
C3031	ECJ1VB1H103K	0.01 50V	[M]
C3032	F2A0J101A024	100 6.3V	[M]
C3033	ECJ1VB1H103K	0.01 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C3034	ECJ1VB1H103K	0.01 50V	[M]
C3035	F2A0J101A024	100 6.3V	[M]
C3036	ECJ1VB1C104K	0.1 16V	[M]
C3037	ECJ1VB1C104K	0.1 16V	[M]
C3038	ECJ1VB1C104K	0.1 16V	[M]
C3039	ECJ1VB1C104K	0.1 16V	[M]
C3040	ECJ1VB1C104K	0.1 16V	[M]
C3041	ECJ1VC1H330J	33P 50V	[M]
C3058	ECJ1VC1H471J	470P 50V	[M]
C3060	ECJ1VC1H471J	470P 50V	[M]
C3068	F2A0J221A024	220 6.3V	[M]
C3069	F2A0J221A024	220 6.3V	[M]
C3070	F2A1A2210103	220 10V	[M]
C3071	F2A1A2210103	220 10V	[M]
C3072	F2A1A2210103	220 10V	[M]
C3910	F2A1H100A110	10 50V	[M]
C3911	F2A1H100A110	10 50V	[M]
C3914	F2A1H100A110	10 50V	[M]
C3915	F2A1H100A110	10 50V	[M]
C3916	F2A1H1R0A110	1 50V	[M]
C3917	F2A1H1R0A110	1 50V	[M]
C3918	F2A1H100A110	10 50V	[M]
C3919	F2A1H100A110	10 50V	[M]
C3928	F2A1H1R0A638	1 50V	[M]
C3929	F2A1H1R0A638	1 50V	[M]
C3935	F2A1E101A132	100 25V	[M]
C3953	ECJ1VC1H471J	470P 50V	[M]
C3954	ECJ1VC1H471J	470P 50V	[M]
C3955	ECJ1VC1H221J	220P 50V	[M]
C3956	ECJ1VC1H221J	220P 50V	[M]
C3957	ECJ1VC1H471J	470P 50V	[M]
C3958	ECJ1VC1H471J	470P 50V	[M]
C3961	ECJ1VC1H221J	220P 50V	[M]
C3962	ECJ1VC1H221J	220P 50V	[M]
C4003	ECJ1VB0J105K	1 6.3V	[M]
C4008	F2A1E470A405	47 25V	[M]
C4009	F2A1E470A405	47 25V	[M]
C4019	F2A1V100A377	10 35V	[M]
C4021	F2A1V100A377	10 35V	[M]
C4022	F2A1E470A405	47 25V	[M]
C4023	F2A1H1R0A110	1 50V	[M]
C4024	F2A1E470A405	47 25V	[M]
C4025	F2A1H1R0A110	1 50V	[M]
C4027	F2A1H100A110	10 50V	[M]
C4028	F2A1H100A110	10 50V	[M]
C4033	F2A1C470A637	47 16V	[M]
C4034	F2A1C470A637	47 16V	[M]
C4055	ECJ1VF1C104Z	0.1 16V	[M]
C4056	F2A1C471A628	470 16V	[M]
C4057	ECJ2VC1H330J	33P 50V	[M]
C4059	ECQV1H104JL3	0.1 50V	[M]
C4060	ECJ2VC1H330J	33P 50V	[M]
C4061	ECJ1VF1C104Z	0.1 16V	[M]
C4062	F2A1C470A637	47 16V	[M]
C4063	F2A1C470A637	47 16V	[M]
C4064	F2A1C470A637	47 16V	[M]
C4065	ECJ1VF1C104Z	0.1 16V	[M]
C4067	F2A1E470A405	47 25V	[M]
C4070	F2A1C470A637	47 16V	[M]
C4072	F2A1C470A637	47 16V	[M]
C4082	ECJ2VC1H561J	560P 50V	[M]
C4083	ECJ2VC1H561J	560P 50V	[M]
C4092	F2A1C101A637	100 16V	[M]
C7301	ECJ1VB1C104K	0.1 16V	[M] EB
C7301	ECJ1VB1H103K	0.01 50V	[M] EG
C7303	ECEA1CKS101B	100 16V	[M]
C7304	ECJ1VF1C104Z	0.1 16V	[M] EG
C7305	ECEA1CKS101B	100 16V	[M] EB
C7306	ECJ1VB1H103K	0.01 50V	[M] EB
C7307	ECJ1VC1H100D	10P 50V	[M] EB
C7308	ECJ1VC1H100D	10P 50V	[M] EB
C7309	ECJ1VB1H152K	1500P 50V	[M] EG
C7309	ECJ1VC1H101J	100P 50V	[M] EB

Ref. No.	Part No.	Part Name & Description	Remarks
C7310	ECJ1VB1H152K	1500P 50V	[M] EG
C7310	ECJ1VC1H101J	100P 50V	[M] EB
C7312	F2A1V100A377	10 35V	[M]
C7313	F2A1V100A377	10 35V	[M]
C7314	ECJ1VF1C104Z	0.1 16V	[M] EB
C7315	ECJ1VB1A474K	0.47 10V	[M] EG
C7316	ECJ1VB1H472K	4700P 50V	[M] EG
C7317	F2A1C470A155	47 16V	[M]
C7323	ECJ1VB1H102K	1000P 50V	[M] EB
C7324	ECJ1VB1H103K	0.01 50V	[M] EG
C7324	ECJ1VF1C104Z	0.1 16V	[M] EB
C7325	ECJ1VB1H103K	0.01 50V	[M] EG
C7326	ECJ1VB1A474K	0.47 10V	[M] EG
C7327	ECJ1VB1H123K	0.012 50V	[M] EG
C7328	ECJ1VC1H681J	680P 50V	[M] EG
C7329	ERJ3GEY0R00V	0 1/16W	[M]
C7330	ECJ1VC1H681J	680P 50V	[M] EG
C7330	ERJ3GEYJ822V	8.2K 1/16W	[M] EB
C7331	ECJ1VB1H123K	0.012 50V	[M] EG
C7332	ECJ1VF1C104Z	0.1 16V	[M] EB
C7333	ECJ1VB1A474K	0.47 10V	[M] EG
C7333	ECJ1VB1C104K	0.1 16V	[M] EB
C7334	F2A1H2R2A110	2.2 50V	[M] EB
C7335	ECJ1VB1H103K	0.01 50V	[M] EG
C7335	ECJ1VF1C104Z	0.1 16V	[M] EB
C7336	ECJ1VB1C104K	0.1 16V	[M] EG
C7337	ECJ1VB1A474K	0.47 10V	[M] EG
C7338	ECJ1VB1A474K	0.47 10V	[M] EG
C7339	ECJ1VC1H090D	9P 50V	[M] EG
C7340	ECJ1VB1C104K	0.1 16V	[M]
C7401	F2A1C471A628	470 16V	[M]
C7402	ECJ1VB1H103K	0.01 50V	[M]
C7404	ECJ1VB1A105K	1 10V	[M]
C7406	ECJ1VB1A105K	1 10V	[M]
C7407	ECJ1VB1C104K	0.1 16V	[M]
C7412	ECJ1VB1A105K	1 10V	[M]
C7413	ECJ1VB1A105K	1 10V	[M]
C7414	ECJ1VB1A105K	1 10V	[M]
C7415	F1K1C105A026	1 16V	[M]
C7417	ECJ1VB1C104K	0.1 16V	[M]
C7418	F2A0J221A458	220 6.3V	[M]
C7419	ECJ1VB0J105K	1 6.3V	[M]
C7439	ECJ1VB1C104K	0.1 16V	[M]
C7501	ECJ1VB1C104K	0.1 16V	[M]
C7501	F1J0J475A008	4.7 6.3V	[M]
C7502	ECJ1VB1H103K	0.01 50V	[M]
C7502	ECJ1VC1H101J	100P 50V	[M]
C7503	F1J0J475A008	4.7 6.3V	[M]
C7503	F2A0J470A245	47 6.3V	[M]
C7504	ECJ1VB1C104K	0.1 16V	[M]
C7504	ECJ1VB1C473K	0.047 16V	[M]
C7505	ECJ1VB1C104K	0.1 16V	[M]
C7505	ECJ1VB1C473K	0.047 16V	[M]
C7506	ECJ1VC1H101J	100P 50V	[M]
C7507	ECJ1VB1C104K	0.1 16V	[M]
C7507	ECJ1VC1H101J	100P 50V	[M]
C7508	ECJ1VB1H102K	1000P 50V	[M]
C7509	ECJ1VB1C104K	0.1 16V	[M]
C7509	ECJ1VB1H102K	1000P 50V	[M]
C7510	ECJ1VB1C104K	0.1 16V	[M]
C7511	ECJ1VC1H101J	100P 50V	[M]
C7512	ECJ1VB1C104K	0.1 16V	[M]
C7512	ECJ1VC1H101J	100P 50V	[M]
C7513	ECJ1VB1H103K	0.01 50V	[M]
C7513	F2A1V4700078	47 35V	[M]
C7514	ECJ1VB1H103K	0.01 50V	[M]
C7516	ECJ1VC1H180J	18P 50V	[M]
C7517	ECJ1VB1C104K	0.1 16V	[M]
C7517	ECJ1VC1H180J	18P 50V	[M]
C7518	ECJ1VC1H220J	22P 50V	[M]
C7519	ECJ1VB1H103K	0.01 50V	[M]
C7519	ECJ1VC1H180J	18P 50V	[M]
C7520	ECJ1VB1C104K	0.1 16V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C7521	ECJ1VC1H101J	100P 50V	[M]
C7522	ECJ1VC1H101J	100P 50V	[M]
C7523	ECJ1VB1H103K	0.01 50V	[M]
C7523	ECJ1VC1H101J	100P 50V	[M]
C7524	ECJ1VB1C104K	0.1 16V	[M]
C7524	ECJ1VC1H101J	100P 50V	[M]
C7525	ECJ1VB1H102K	1000P 50V	[M]
C7528	ECJ1VB1C104K	0.1 16V	[M]
C7531	ECJ1VC1H100D	10P 50V	[M]
C7532	ECJ1VC1H100D	10P 50V	[M]
C7534	ECJ1VB1H103K	0.01 50V	[M]
C7541	ECJ1VC1H470J	47P 50V	[M]
C7542	ECJ1VB1C104K	0.1 16V	[M]
C7543	ECJ1VC1H470J	47P 50V	[M]
C7544	ECJ1VB1C104K	0.1 16V	[M]
C7546	ECJ1VB0J105K	1 6.3V	[M]
C7551	ECJ1VB1C104K	0.1 16V	[M]
C7552	ECJ1VC1H221J	220P 50V	[M]
C7553	ECJ1VC1H221J	220P 50V	[M]
C7554	ECJ1VB1H103K	0.01 50V	[M]
C7555	ECJ1VB1H103K	0.01 50V	[M]
C7556	ECJ1VB1H103K	0.01 50V	[M]
C7557	ECJ1VB1H103K	0.01 50V	[M]
C7558	ECJ1VB1H103K	0.01 50V	[M]
C7562	ECJ1VB1C104K	0.1 16V	[M]
C7565	F2A1E101A132	100 25V	[M]
C7569	ECQB1H392KF3	3900P 50V	[M]
C7570	F2A1V330A379	33 35V	[M]
C7571	F2A1H100A110	10 50V	[M]
C7572	ECEA1CKS101B	100 16V	[M]
C7573	F2A1H100A110	10 50V	[M]
C7574	F2A1V220A378	22 35V	[M]
C7577	ECJ1VB1C104K	0.1 16V	[M]
C7578	F2A0J470A024	47 6.3V	[M]
C7579	F2A0J470A024	47 6.3V	[M]
C7581	ECJ1VB1H103K	0.01 50V	[M]
C7583	ECJ1VB0J474K	0.47 6.3V	[M]
C7584	F4D554730020	47000 5.5V	[M]
C7591	ECJ1VB1C104K	0.1 16V	[M]
C7592	ECJ1VB1C104K	0.1 16V	[M]
C7809	ECJ1VB1H103K	0.01 50V	[M]
C7813	F2A0J101A449	100 6.3V	[M]
C7814	F2A1H2200061	22 50V	[M]
C7817	F2A0J101A449	100 6.3V	[M]
C7818	ECJ1VC1H330J	33P 50V	[M]
C7819	ECJ1VC1H330J	33P 50V	[M]
C7820	ECJ1VB1C104K	0.1 16V	[M]
C7821	ECJ1VB1H103K	0.01 50V	[M]
C7822	ECJ1VB1H103K	0.01 50V	[M]
C7824	F2A0J101A449	100 6.3V	[M]
C7828	ECJ1VB1H103K	0.01 50V	[M]