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Service Manual

TOP NEXT

AD0303071C5

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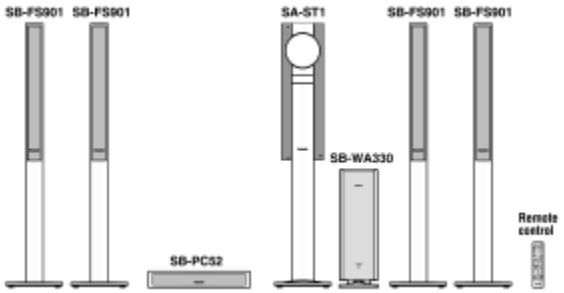
Service Manual

DVD/ Tuner unit

- SA-ST1PP
  SA-ST1EB
  SA-ST1EG

Colour

(S).....Silver Type



Because of unique interconnecting cables, when a component

System	SC-ST1
DVD/Tuner unit	**SA-ST1**
Front and surround speakers*1	SB-FS901

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Front and surround speakers*1	SB-FS901
Center speaker*1	SB-PC52
Active sub woofer*2	SB-WA330

*1 : Made in Singapore.
*2 : Made in Malaysia.

Specifications

Amplifier section

RMS Output Power (10 % total harmonic distortion):
1 kHz;
Front 40 W per channel (6 Ω)
Surround 50 W per channel (6 Ω)
Center 120 W (6 Ω)
100 Hz;
Sub woofer 200 W (4 Ω)
RMS Total Output Power 500 W
FTC Output Power (1.0 % total harmonic distortion)*3:
120 Hz - 20 kHz;
Front 27 W per channel (6 Ω)
Surround 27 W per channel (6 Ω)
Center 62 W (6 Ω)
45 Hz - 120 Hz;
Sub woofer 130 W (4 Ω)
FTC Total Output Power 300 W
DIN Output Power (1.0 % total harmonic distortion)*4:
1 kHz;
Front 30 W per channel (6 Ω)
Surround 35 W per channel (6 Ω)
Center 90 W (6 Ω)
100 Hz;
Sub woofer 130 W (4 Ω)
DIN Total Output Power 350 W
Input sensitivity/input impedance:
VCR/AUX; 350 mV, 10 kΩ
TV for SA-ST1PP; 350 mV, 10 kΩ
TV (RCA/AV terminal) except for SA-ST1PP; 350 mV, 10 kΩ

FM tuner section

Frequency range:
For SA-ST1PP; 87.9 – 107.9 MHz (200 kHz steps)
87.5 – 108.0 MHz (100 kHz steps)
Except for SA-ST1PP; 87.5 – 108.0 MHz (50 kHz steps)
Antenna terminal(s): 75 Ω (unbalanced)

Disc section

Disc played DVD-AUDIO, DVD-VIDEO, DVD-RAM/DVD-R (DVD-VIDEO formatted discs), CD (CD-DA), VIDEO-CD, CD-R/RW (CD-DA, VIDEO-CD, WMA, MP3 formatted discs)
Audio:
Number of channels; 5.1 (FL, FR, SL, SR, C, SW)
Video:
Signal system;
For SA-ST1PP; NTSC
Except for SA-ST1PP; PAL, PAL60/NTSC
Output terminal; RCA terminal (composite video)
S terminal (Y, C)
Component video terminals (Y, P_B, P_R)
Except for SA-ST1PP only; AV terminal (composite, Y/C, RCB)
Pickup:
Beam source; Semiconductor Laser
Wavelength;
DVD; 658 nm
VCD/CD; 790 nm

General

Power supply:
SC-ST1PP; AC 120 V, 60 Hz
SC-ST1EB; AC 230 - 240 V, 50 Hz
SC-ST1EG; AC 230 V, 50 Hz
Power consumption for SC-ST1: 210 W
Dimensions (WxHxD): 250x1,063x250 mm ($9^{27}/_{32}$" × $41^{7}/_{8}$" × $9^{27}/_{32}$") (including protrusions)
Mass: 7.8 kg (17.2 lb.)

Power consumption in standby mode:
For SC-ST1PP; 0.5 W
Except for SC-ST1PP; 0.7 W

Except for SA-ST1PP; 87.5 – 108.0 MHz (50 kHz steps)
Antenna terminal(s): 75 Ω (unbalanced)

AM tuner section

Frequency range:
For SA-ST1PP; 520 – 1710 kHz (10 kHz steps)
Except for SA-ST1PP; 522 – 1629 kHz (9 kHz steps)

Notes: Specifications are subject to change without notice.
Mass and dimensions are approximate.
Total harmonic distortion is measured by the digital spectrum analyzer.
*3: SA-ST1PP only
*4: Except for SA-ST1PP only

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Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.
WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

⚠ 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.

Panasonic

TOP NEXT

1 Before Repairs

TOP PREVIOUS NEXT

Note:

This item is indicated the contents of SB-WA330 .

1. Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C546, C547, C548, C549) in order to discharge the voltage.

2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode (VOL: MIN, SELECTOR: DVD/CD)should be shown below with respect to supply voltage 120/230/240 V.

Power supply voltage	AC 120 V, 60 Hz	AC 230 V, 50 Hz	AC 230-240 V, 50 Hz
Consumed current	Less than 1000 mA	Less than 400 mA	Less than 400 mA

TOP PREVIOUS NEXT

2 Protection Circuitry

Note:

This item is indicated the contents of SB-WA330 .

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

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The functions 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 this unit are used.

If this occurs, follow the procedures outlined below.

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

3 Disc information

■ CD-R and CD-RW discs

This unit can play CD-R/RW (audio recording disc) recorded with CD-DA, video CD, WMA or MP3. Finalize* the disc after recording.

■ DVD-R discs

Panasonic DVD-R recorded and finalized* on a Panasonic DVD video recorder are played as DVD-Video on this unit.

*A process that allows play on compatible equipment.

■ DVD-RAM discs

DVD-RAM discs must meet the following conditions for this unit to be able to play them.

Type	• Non-cartridge discs • Discs that can be removed from their cartridges (TYPE 2 and 4)
Capacity	• 12 cm (5") 9.4 GB (double-sided) and 4.7 GB (single-sided) • 8 cm (3") 2.8 GB (double-sided)
Recording format	Discs recorded with DVD video recorders, DVD video cameras, personal computers, etc., using Version 1.1 of the Video Recording Format (a unified video recording standard).

- Remove TYPE 2 and 4 discs from their cartridges before use, then return them when you are finished. Read the instructions for the disc carefully.
- Do not allow the disc to become dirty or scratched. Store discs in their cartridges and ensure the disc label and cartridge label face the same way.
- Some parts of the disc, for example where one program ends and another begins, may not play smoothly.

Note

It may not be possible to play CD-R, CD-RW, DVD-R and DVD-RAM in all cases due to the type of disc or condition of the recording.

4 Safety Precaution

Note:

This item is indicated the contents of SB-WA330 .

(This “Safety Precaution” is applied only in U.S.A..)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacture’s recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields etc..
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

4.1 Insulation resistance test

4.1 Insulation resistance test

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.

2. Turn on the power switch.

3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet parts, such as screw heads antenna, control shafts, handle brackets, etc.. Equipment with antenna terminals should read between 3 MΩ -5.2 MΩ to all exposed parts. Refer to Fig. 4-1. Equipment without antenna terminals should read approximately infinity to all exposed parts. Refer to Fig. 4-2.

   Note:

   Some exposed parts may be isolated from the chassis by design. These will read infinity.

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

Fig. 4-1.

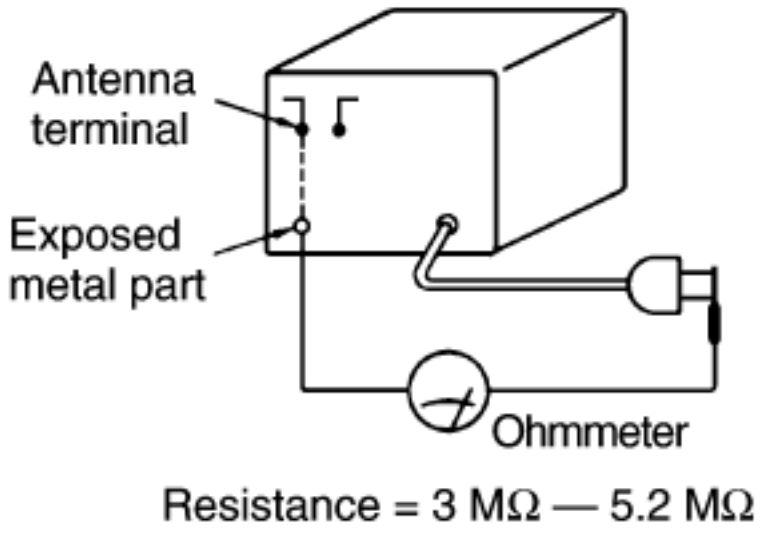
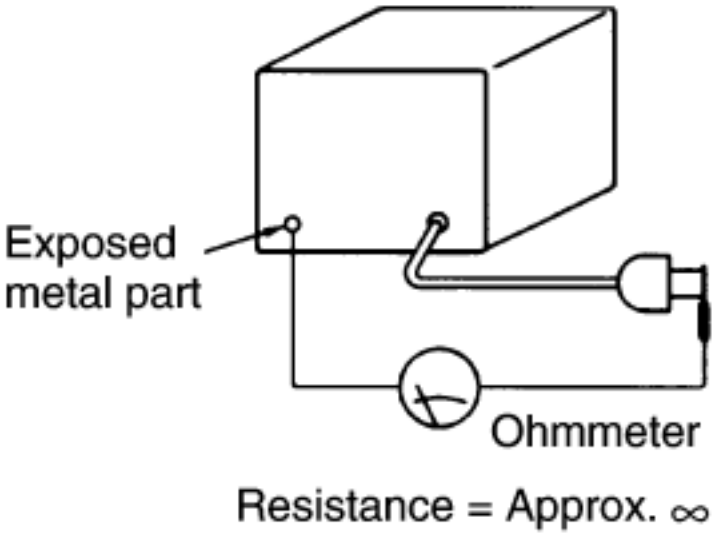


Fig. 4-2.


Exposed
metal part
Ohmmeter
Resistance = Approx. ∞

5 Precaution of Laser Diode

- For SA-ST1PP

  Caution:

  This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pick-up lens when the unit is turn on:

  1. Do not look directly into the pick-up lens.
  2. Do not use optical instruments to look at pick-up lens.
  3. Do not adjust the preset variable resistor on the optical pick-up.
  4. Do not disassemble the optical pick-up unit.
  5. If the optical pick-up is replaced, use the manufacture’s specified replacement pick-up only.
  6. Use of control or adjustment or performance of procedures other than those specified herein may result in hazardous radiation exposure.

- For SA-ST1EB, SA-ST1EG

CAUTION:
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick-up lens.
Wave length: 658/790 nm
Maximum output radiation power from pick-up: 100 µW/VDE

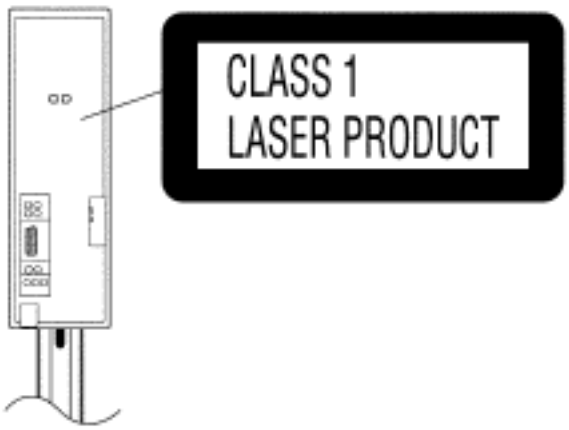
Laser radiation from the pick-up unit is safety level, but be sure the followings:

1. Do not disassemble the 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 adgestrahit.
Wellenlänge: 658/790 nm
Maximale Strahlungsleistung der Lasereinheit: 100 µW/VDE

Die strahlungan 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 werksseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.



(Back of product)

TOP PREVIOUS NEXT

6 Handling Precautions for Traverse Deck

The laser diode in the optical pick-up may break down due to potential difference caused by static electricity of clothes or human body.

So be careful of electrostatic breakdown during repair of the optical pick-up.

6.1 Handling of optical pick-up

6.2 Grounding for electrostatic breakdown prevention

6.2.1 Human body grounding

6.2.2 Work table grounding

6.1 Handling of optical pick-up

TOP PREVIOUS NEXT

1. Do not subject the optical pick-up to static electricity as it is extremely sensitive to electrical shock.

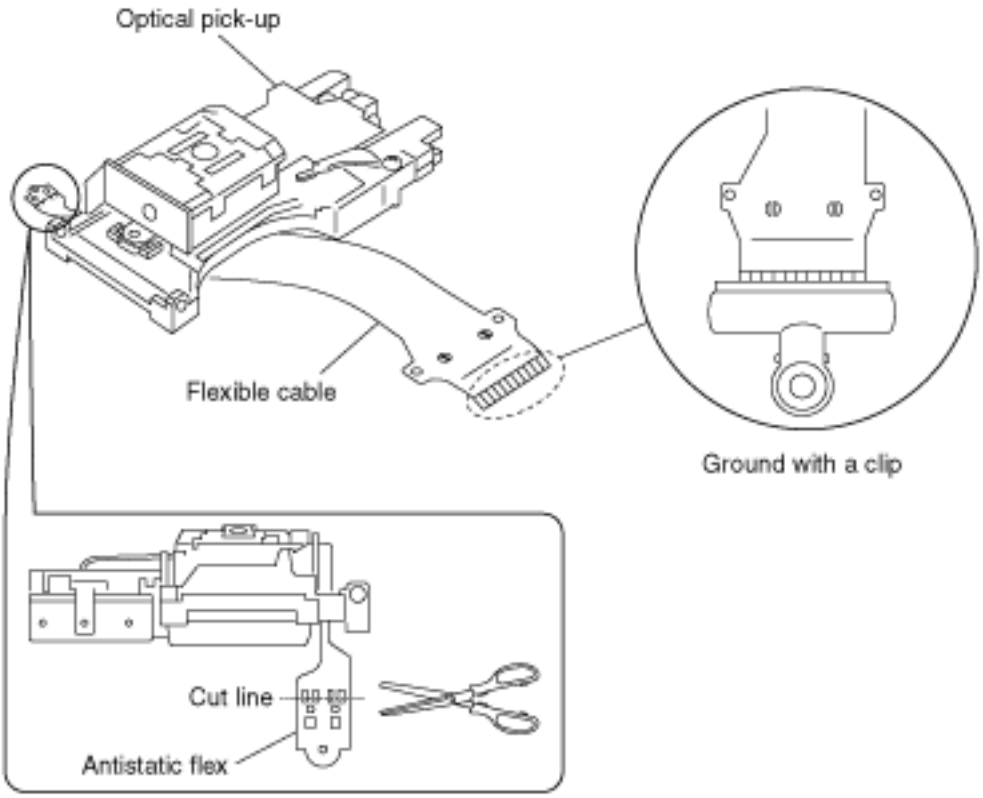
2. To prevent the breakdown of the laser diode, an antistatic shorting pin or similar object is inserted into the flexible board (FFC board). Refer to Fig. 6-1.
   When removing or connecting the shortpin, finish the job in as short time as possible.

3. Be careful not to apply excessive stress to the flexible board (FFC board).

4. A new optical pick-up has an antistatic flex. When the optical pick-up is replaced, connect the flexible cable (FFC) to the connector first, and then cut the antistatic flex. Refer to Fig. 6-1.

5. Do not turn the variable resistor (Laser power adjustment).

Fig. 6-1.



TOP PREVIOUS NEXT

6.2 Grounding for electrostatic breakdown prevention

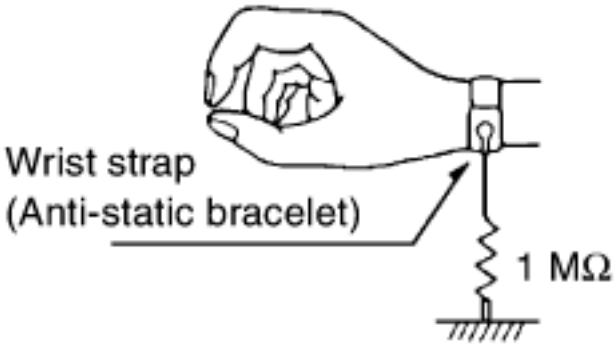
6.2.1 Human body grounding

6.2.2 Work table grounding

6.2.1 Human body grounding

Use the antistatic wrist strap to discharge the static electricity from your body. Refer to Fig. 6-2.

Fig. 6-2.

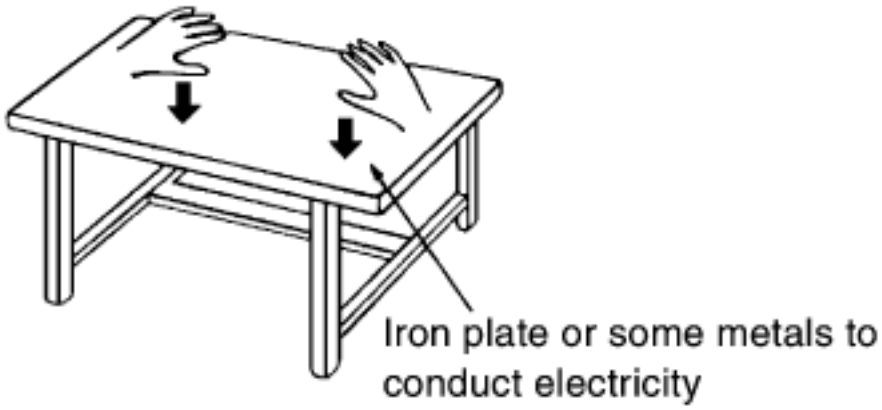


6.2.2 Work table grounding

TOP PREVIOUS NEXT

Put a conductive material (sheet) or steel sheet on the area where the optical pick-up is placed and ground the sheet. Refer to Fig. 6-3.

Fig. 6-3.



Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pick-up.

TOP PREVIOUS NEXT

7 Accessories

- AC power supply cord

  For SA-ST1PP (RJA0065-K).....1 pc.

  For SA-ST1EB (RJA0053-3X).....1 pc.

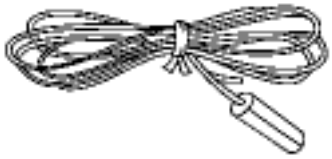
  For SA-ST1EG (RJA0019-2X).....1 pc.

  Note:

  The configuration of AC power supply cord depends on the area.

- FM indoor antenna

  (RSA0007).....1 pc.



- AM loop antenna

  (N1DAAAA00001).....1 pc.

- Speaker cables

  (REE1203C)(10 m<33 feet>).....2 pcs.

(REE1203A)(4 m<13 feet>).....3 pcs.

- Video cable

  (K2KA2HA00003).....1 pc.

- System cable

  (K1HA25JA0002).....1 pc.

- Sheet of speaker feet

  (RFA0631A-K).....1 pc.

- Screws

  (XSN5+16FN).....8 pcs.

- Clips

  (QWBG002AA).....4 pcs.

- Black screws

(XTB3+10JFZ).....4 pcs.

- String for main unit

  (RMF0321).....1 pc.

- Sheet of speaker-cable stickers

  (RQCA1029).....1 pc.

- Remote control

  For SA-ST1PP (EUR7623X20).....1 pc.

  Except for SA-ST1PP (EUR7623X40).....1 pc.

- Batteries for remote control

  (R6/LR6, “AA”, UM-3).....2 pcs.

  Note: These are available on sales route.

- Antenna plug for SA-ST1PP only

  (K2RC021B0001).....1 pc.

- Antenna plug adaptor for SA-ST1EB only

  (SJP9009).....1 pc.

TOP PREVIOUS NEXT

8 Caution for AC Mains Lead

TOP PREVIOUS NEXT

Note:

This item is indicated the contents of SB-WA330 .

(For United Kingdom)

("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 OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

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

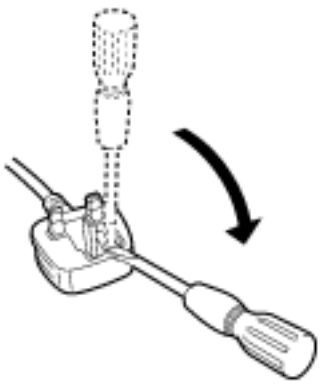
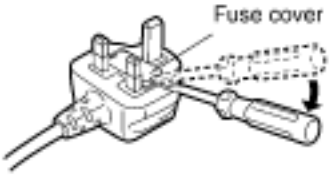


Figure B



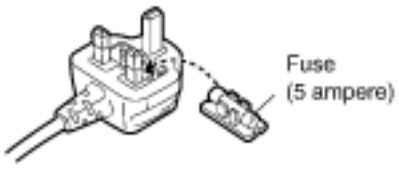
2. Replace the fuse and close or attach the fuse cover.

Figure A

Figure B

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.

Figure B



TOP PREVIOUS NEXT

9 Location of Controls

10 Connections and Operations

This item indicates excerpts about the connection to the speakers and some operations from operation instructions.

11 DVD Optical Pick-up Self-Diagnosis and Replacement Procedure

TOP PREVIOUS NEXT

11.1 Self-diagnosis

11.2 Caution to be used before replacing the optical pick-up and spindle motor assembly

11.2.1 Caution to be taken when replacing the optical pick-up

TOP PREVIOUS NEXT

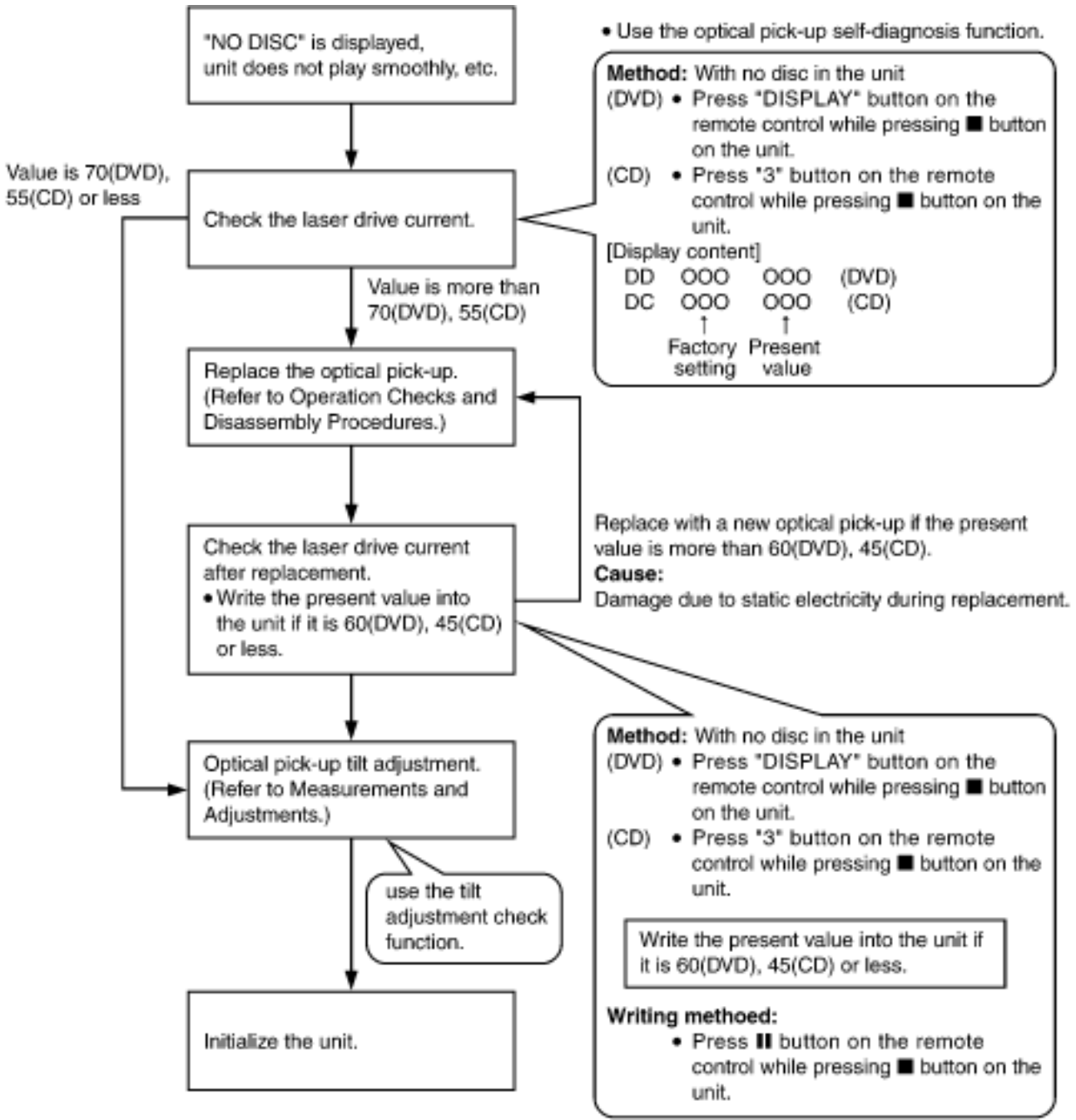
11.1 Self-diagnosis

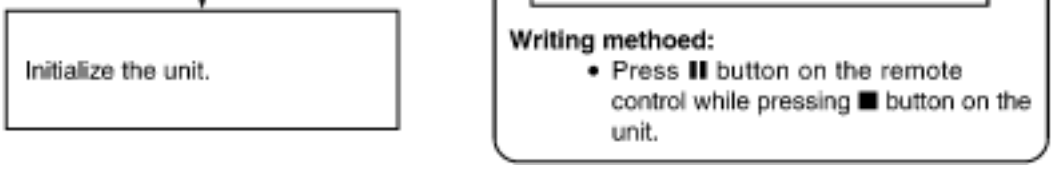
TOP PREVIOUS NEXT

The optical pick-up self-diagnosis function and tilt adjustment check function have been included in this unit. When repairing, use the following procedure for effective self-diagnosis and tilt adjustment. Be sure to use the self-diagnosis functionbefore replacing the optical pick-up when “NO DISC” is displayed. As a guideline, you should replace the optical pick-up when the value of the laser drive current is more than 70(DVD), 55(CD).

Note:

Press the Standby/on button to turn on the power, and check the value within 3 minutes before the unit warms up.
(Otherwise, the unit will be incorrect.)





Writing methoed:

- Press ⏸ button on the remote control while pressing ■ button on the unit.

TOP PREVIOUS NEXT

11.2 Caution to be used before replacing the optical pick-up and spindle motor assembly

TOP PREVIOUS NEXT

Before replacing the optical pick-up and spindle motor assembly, check the total using hours for each of them. The checking method is as follows:

Item	Play mode and button combination	Display
Using hours of DVD and CD laser	In STOP mode (no disc), while pressing ■ button on the unit, press ▲ button on the remotecontrol.	0xxxx0yyyy xxxx(DVD), yyyy(CD): Time is shown in 4 digits of decimal notation in a unit of an hours. Note: 1-digit and 6-digit of “0” is not changed.
Using hours of spindle motor	In STOP mode (no disc), while pressing ■ button on the unit, press ▶ button on the remotecontrol.	T2-xxxx--- (- indicates a space.) xxxx: Time is shown in 4 digits of decimal notation in a unit of 10 hours.
Resetting using hours of DVD and CD laser	When displaying the using hours of DVD and CD laser, while pressing ■ button on the unit, press ▼ button on the remote control.	0000000000
Resetting using hours of spindle motor	When displaying using hours of spindle motor, while pressing ■ button on the unit, press ◀ buttonon the remote control.	T2-0000---

11.2.1 Caution to be taken when replacing the optical pick-up

TOP PREVIOUS NEXT

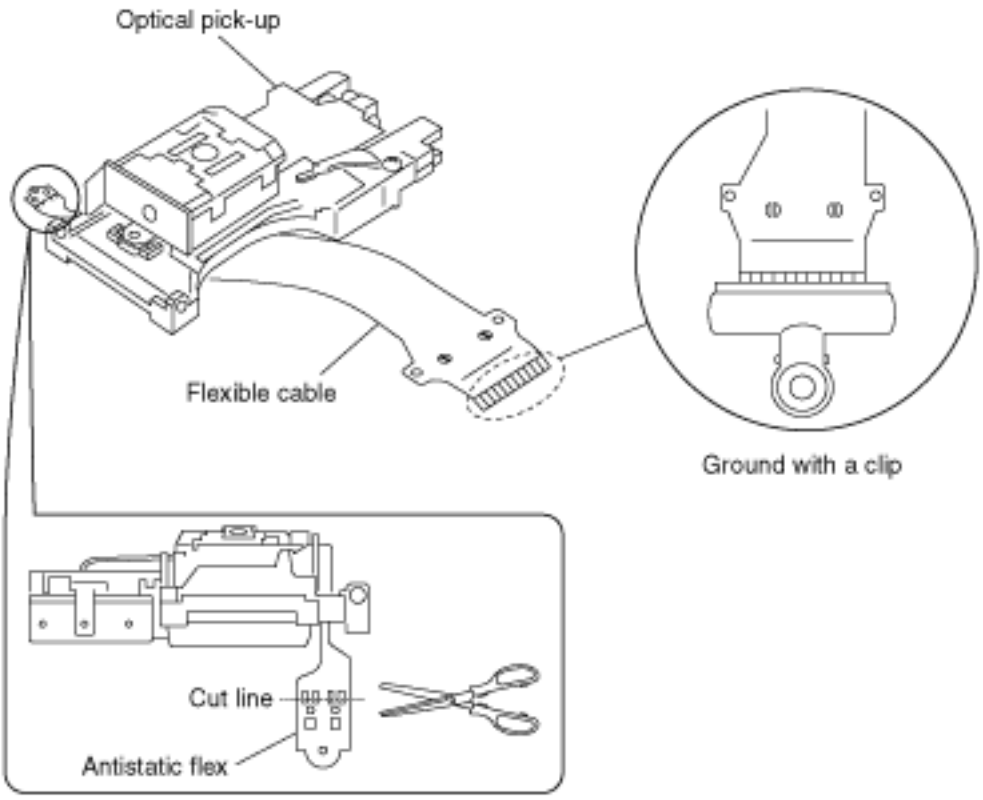
11.2.1 Caution to be taken when replacing the optical pick-up

The optical pick-up may break down due to the static electricity of human body. Take proper protection measures against static electricity before repairing the parts around the optical pick-up. Refer to “Handling Precaution for TraverseDeck”.

- Do not touch the area around the laser diode and actuator.
- Do not judge the laser diode with a tester.
- It is recommended to use an antistatic soldering iron for short-circuit or removing the laser diode.
  (Recommended soldering iron) HAKKO ESD Product
- Solder the land of the flexible cable in the optical pick-up.

  Note:

  When using a soldering iron which is not antistatic, short-circuit the terminal of the flexible cable first. After that, short the land.
- An antistatic flex is connected with the new optical pick-up. Cut the antistatic flex after the optical pick-up is replaced.



TOP PREVIOUS NEXT

12 Self-Diagnostic Function

This unit is equipped with a self-diagnostic function which, in the event of a malfunction, automatically displays a code indicating the nature of the malfunction.

Use this self-diagnostic function when servicing the unit.

12.1 To display the malfunction code automatically

12.1.1 Automatically display function

12.1.2 To redisplay the malfunction code

12.1.3 Automatically display contents

12.2 Malfunction code stored in memory

12.2.1 How to enter the mode and display

12.2.2 To redisplay the malfunction code

12.2.3 Clearing self-diagnostic function

12.3 Service mode table 1

12.4 DVD / CD error code display

12.5 Last error code saved during NO PLAY

12.6 Service mode table 2

12.7 Sales demonstration lock function

12.7.1 Setting

12.7.2 Cancellation

12.8 Handling after completing repairs

12.1 To display the malfunction code automatically

12.1.1 Automatically display function

12.1.2 To redisplay the malfunction code

12.1.3 Automatically display contents

12.1.1 Automatically display function

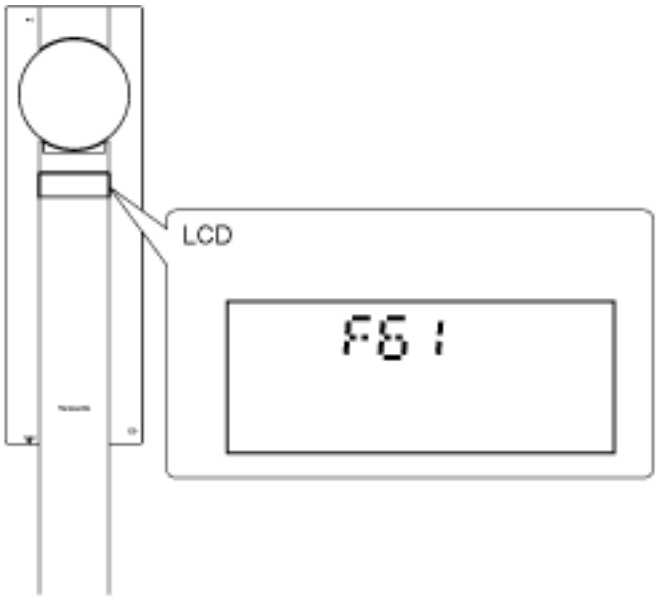
TOP PREVIOUS NEXT

Automatically display when the unit detects the malfunction of power supply.

- F61:

  Automatically displays on the LCD when a malfunction occurs. Refer to Fig. 12-1.

Fig. 12-1.



TOP PREVIOUS NEXT

12.1.2 To redisplay the malfunction code

- For F61
    - If F61 is displayed, the power will automatically be switched off and the standby indicator will light up.
    - F61 will be displayed for 3 seconds, and then the clock will be displayed.
    - To redisplay the code, switch the power on. F61 will be redisplayed, and then after 3 seconds the clock will be displayed and the power will automatically switch off.

12.1.3 Automatically display contents

12.1.3.1 F61

- Problem or condition

  When the “Standby/on” switch is switched on, it automatically switches back off, making it impossible to switch power on.

- Correction procedure

  Faulty power supply signal line or when a DC voltage is applied to speaker terminals. (Check and replace the malfunction parts.)

12.2 Malfunction code stored in memory

TOP PREVIOUS NEXT

12.2.1 How to enter the mode and display

12.2.2 To redisplay the malfunction code

12.2.3 Clearing self-diagnostic function

TOP PREVIOUS NEXT

12.2.1 How to enter the mode and display

1. Turn on the power.
2. Press “SELECTOR” button to select DVD/CD. With no disc on the unit, hold down

   ■ button for at least 2 seconds, and then press

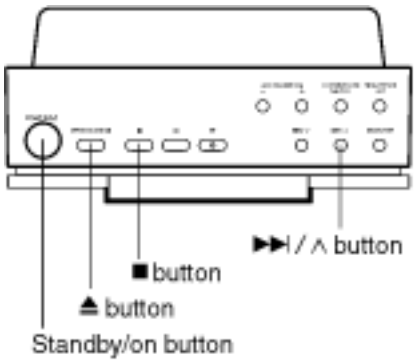
   ▶▶I/∧ button for at least 2 seconds. Refer to Fig. 12-2. The LCD is displayed “T---------”
3. Press “OPEN/CLOSE

   ⏏” button. Refer to Fig. 12-2. (The loading tray is opened automatically, and after a second, close it automatically.)
4. Press

   ■ button. Refer to Fig. 12-2. Malfunction code stored in memory is displayed if any. Refer to Table 12-1. If there are multiple error,they can be successively by pressing

   ■ button.

Fig. 12-2.



12.2.2 To redisplay the malfunction code

- Press the “Standby/on” button to turn off. And then press the “Standby/on” button again to turn it on again.
- The contents of self-diagnostic function are stored in memory. To redisplay, perform the procedures “How to enter the mode and display”.

12.2.3 Clearing self-diagnostic function

- After repairing, continue to press

  ■ button for at least 5 seconds. And then “T---------” is displayed on the LCD.
  (- indicatesa space.)
  (Clearing the contents of self-diagnostic function.)

- Always be sure to clear memories after completing repair.

Table 12-1

Display code	Symptom	Cause
H15	When the loading tray opens, it closes by itself.	Loading tray open detect switch (S913) fault. (Check and replace)
H16	When the loading tray closes, it opens by itself.	Loading tray close detect switch (S914) fault. (Check and replace)

12.3 Service mode table 1

TOP PREVIOUS NEXT

Pressing various button combinations on the unit and remote control can activate the service modes.

Unit button	Remote control button	Application
■	0	Displaying the error code. (Refer to the item 12.4. “DVD/CD error code display”.)
	5	Jitter check, optical pick-up tilt adjustment.
	6	Checking the region numbers and broadcast system.
	7	Checking the program version.
	DISPLAY	Checking DVD laser drive current measurement.
	3	Checking CD laser drive current measurement.
	▮▮	Writing the laser drive current value after replacing the optical pick-up. (Do not perform this mode except for replacing the optical pick-up.)
	≧10	Initialization (Restore factory preset settings) Perform this mode when replacing the microcomputer, its peripheral parts and P.C.B..

TOP PREVIOUS NEXT

12.4 DVD/ CD error code display

Error Code	Error Content	Additional error explanation	Defect 1	Defect 2	Defect 3	Defect 4	Defect 5
U, H error							
U11	Focus error						
H01	Tray loading error						
H02	Spindle servo error	(Spindle servo, DSC motor, CLV servo error.)					
H03	Traverse motor error						
H04	Tracking servo error						
H05	Seek error						
DSC related							
F500	DSC error	DSC stops in the occurrence of servo error. (startup, focus error, etc.)	OPU	ADSC	FEP	servo drive	
F501	DSC not Ready error	DSC-system computer communication error (Communication failure caused by idling of DSC.)	ADSC	CPU			
F502	DSC Time out error	Similar disposal as F500.	OPU	ADSC	FEP	servo drive	
F503	DSC communication Failure	Communication error (result error occurred although communication command was sent.)	ADSC	FEP	EEPROM		
F505	DSC Attention error	Similar disposal as F500.	OPU	ADSC	FEP	servo drive	
F506	Invalid media	Disc is flipped over, TOC unreadable, incompatible disc.	DISC	FEP	ADSC	ODC	
ODC related							
F600	Access failure to management information caused by demodulation error.	Operation stopped because navigation data is not accessible caused by the demodulation defect.	ODC	FEP	ADSC		
F601	Indeterminate sector ID requested.	Operation stopped caused by the request to access abnormal ID data.	ODC	FEP	ADSC		
F602	Access failure to LEAD-IN caused by demodulation error.	LEAD IN data unreadable.					

F603	Access failure to KEYDET caused by demodulation error.	Access failure to CSS data of disc					
F610	ODC abnormality	No permission for command execution	ODC				
F611	6626 QCODE don't read error.	Access failure to seek address in CD series	ODC				
F612	No CRC OK for a specific time	Access failure to ID data in DVD series	ODC				
Disc code							
F103	Illegal highlight position	Every possibility of disc specification violation during highlight display	DISC				
IIC error							
F4FF	Force initialize failure (time out)		EEPROM	CPU	FEP	ADSC	
Microcomputer error							
F700	MBX overflow	When replying message to disc manager.					
F701	Message command does not end.	Next message is sent before replying to disc manager.					
F702	Message command changes.	Message is changed before it is sent as a reply to disc manager.					
F880	Task number is not appropriate.	Message coming from a non-existing task.					
F890	Sending message when message is being sent to AV task.	Sending message to AV task.					
F891	Message could not be sent to AV task.	Begin sending message to AV task.					
F893	FROM falsification		FROM	CPU			
F894	EEPROM abnormality		EEPROM	Serial communi-cation line			
F8A0	Message command is not appropriate.	Begin sending message to AV task.					

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12.5 Last error code saved during NO PLAY

TOP PREVIOUS NEXT

Error code	Error Content	System computer	Setting task	System computer internal error code
F0BF	6) Cannot playback because physical layer is not recognizable.	PCND_NOPLAY_PHYSICAL 0x50	DriveManager	0xD0BF
F0C0	8) DVD: Cannot playback because it is not DVD Video/ Audio/VR.	PCND_NOPLAY_VIDEO 0x70	DiscManager	0xD0C0
F0C1	9) DVD: Prohibited by the restricted region code.	PCND_NOPLAY_RCD 0x80	DiscManager	0xD0C1
F0C2	A) DVD: PAL restricted playback.	PCND_NOPLAY_PAL 0x90	DiscManager	0xD0C2
F0C3	B) DVD: Parental lock setting prohibits the playback of the entire title.	PCND_NOPLAY_PTL 0xA0	DiscManager	0xD0C3
F0C4	C) VCD: Prohibited because it is in PHOTO CD format.	PCND_NOPLAY_PHOTO CD 0xB0	DiscManager	0xD0C4
F0C5	D) VCD/CD: Prohibited because it is CD-ROM without CD-DA.	PCND_NOPLAY_CDROM 0xC0	DiscManager	0xD0C5

TOP PREVIOUS NEXT

12.6 Service mode table 2

Pressing various button combinations on the unit and remote control can activate the service modes.

Item	Unit mode and button combination	Function	Display	Cancellation method
Jitter check	In STOP mode (no disc), press ■ button on the unit and “5” button on the remote control.	Jitter check Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be readout, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter mayjump by two or more.	xxx*1-yyy*2-zz*3 (- indicates a space.) *1: Jitter rate *2: Read error counter *3:Focus drive value Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Press ■ button or open the loading tray.
Error code check	In STOP mode (no disc), press ■ button on the unit and “0” button on the remote control. *With displaying error code,panel controller switches serial number of history and sends out the command accordingly by pressing ▲ and ▼ button.	Error code check The latest error code stored in EEPROM is displayed.	Error code (play_err) is expressed in the following convention. Error code=0xDAXX is expressed→DVD nn-UXX- Error code=0xDBXX is expressed→DVD nn-HXX- Errorcode=0xDXXX is expressed→DVD nn-FXXX Error code=0x0000 is expressed→ DVD nn-F--- Error code except above→DVDnn-XXXX *nn denotes the serial number ofhistory.	Cancelled automatically 5 seconds later.

Initial setting of laser drive current	In STOP mode (no disc), press ■ button on the unit and ▮▮ button on the remote control.	Initial setting of laser drive current Initial current value for each of DVD and CD laser is separately saved in EEPROM.	D0*1-034*2-028*3 *1: Laser current measurement mode *2: DVD laser current measurement *3:CD laser current measurement The value denotes the current in decimal notation. The above example shows the initial current is 34 mA and 28 mA for DVD and CD laser.	Cancelled automatically 5 seconds later.
DVD laser drive current measurement	In STOP mode (no disc), press ■ button on the unit and “DISPLAY” button on the remote control.	DVD laser drive current measurement DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. Itis turned off when Standby/on key is switched off. (It is also turned off when the primary power is switched off.)	DD*1-034*2-032*3 *1: DVD laser current measurement mode *2: Initial current stored in EEPROM *3:Measured current The value denotes the current in decimal notation. The above example shows the initial current is 34 mA and the measured value is 32 mA.	Cancelled automatically 5 seconds later.
ADSC internal RAM data check	In STOP mode (no disc), press ■ button on the unit and “1” or “2” button on the remote control.	ADSC internal RAM data check ADSC internal RAM data is read out and displayed. Change the address with “CANCEL” key operation to show the data for 16 addresses.	A*1-0FA*2-6901*3 *1: ADSC internal RAM data check mode *2: Address *3: RAMdata for specified address The value is shown in hexadecimal notation. The above example shows the data in ADSC address 0FAh is 6901h.	Press ■ button or open the loading tray.
CD laser drive current measurement	In STOP mode (no disc), press ■ button on the unit and “3” button on the remote control.	CD laser drive current measurement CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It is turnedoff when Standby/on key is switched off. (It is also turned off when the primary power is switched off.)	DC*1-028*2-026*3 *1: CD laser current measurement mode *2: Initial current stored in EEPROM *3:Measured current The value denotes the current in decimal notation. The above example shows the initial current is 28 mA and the measured value is 26 mA.	Cancelled automatically 5 seconds later.

User initialization	In STOP mode (no disc), press ■ button on the unit and “ ≧10” button onthe remote control.	User initialization User setting are cancelled and unit is initialized to factory preset settings.	“INITIALIZE”	
Region display	In STOP mode (no disc), press ■ button on the unit and “6” button on the remote control.	Region display	-w*1-x*2y*3-zzz*4- *1: Region No. *2: N; no PAL/P;PAL *3: N; NTSC/6; PAL60 *4: Panel controller jumper information	Cancelled automatically 5 seconds later.
Firmware version display	In STOP mode (no disc), press ■ button on the unit and “7” button on the remote control.	Firmware version display	rrr*1-xx*2y*3zzz*4 *1: Panel controller release number *2: System controller generation *3:System controller model number *4: System controller release number	Cancelled automatically 5 seconds later.
Region & firmware version display	In STOP mode (no disc), press ■ button on the unit and “8” button on the remote control.	Region & firmware version display	-r*1--xx*2y*3zzz*4 *1: Region No. *2: System controller generation *3:System controller model number *4: System controller release number	Cancelled automatically 5 seconds later.
Timer 1 check	In STOP mode (no disc), press ■ button on the unit and ▲ button on the remote control.	Timer 1 check Laser operation timer. Operation time is measured separately for DVD and CD laser.	0123405678 Shown to the left (from 1 to 5-digit) is DVD laser time, and to the right (6 to 10-digit) is CD laser time. Time is shown in 4 digits of decimal notation in a unit of an hour. “0000” willfollow “9999”. Note: 1-digit and 6-digit of “0” is not changed.	Cancelled automatically 5 seconds later.
Timer 1 reset	While displaying Timer 1 data, press ■ button on the unit and ▼ button on the remotecontrol.	Timer 1 reset Laser operation timer. Operation time is reset all at once for DVD and CD laser.	0000000000	Cancelled automatically 5 seconds later.

Timer 2 check	In STOP mode (no disc), press ■ button on the unit and ▶ button on the remote control.	Timer 2 check Spindle motor operation timer.	T2-1234--- Time is shown in 4 digits of decimal notation in a unit of 10 hours. “0000” will follow “9999”.	Cancelled automatically 5 seconds later.
Timer 2 reset	While displaying Timer 2 data, press ■ button on the unit and ◀ button on the remotecontrol.	Timer 2 reset Spindle motor operation timer.	T2-0000---	Cancelled automatically 5 seconds later.
Communi-cation error display	In STOP mode (no disc), press ■ button on the unit and “MENU” button on the remote control.	Communication error display Displaying the number of communication error times between IC6201 and IC801.	ERR-02*1-/30*2 *1: Number of error times *2: Number of communication times(Fixed)	Cancelled automatically 5 seconds later.

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12.7 Sales demonstration lock function

This function prevents discs from being lost when the unit is used for sales demonstration, disable to eject the disc and some operations for disc. When the unit is operated in this mode, “ ---LOCKED--” is displayedon the LCD and prohibited operation is disabled.

12.7.1 Setting

12.7.2 Cancellation

12.7.1 Setting

- Setting for eject operation

    1. Press “SELECTOR” button to select DVD/CD.

    2. Hold down

        ■ button on the unit, and then press “Standby/on” button on the remote control for at least 3 seconds.
        “ ---LOCKED--” isdisplayed on the LCD for 3 seconds, and then start to play the disc on the unit. (This indicates the unit enters into sales demonstration lock function.)

    Note:

    When “OPEN/CLOSE

    ⏏” is pressed, “ ---LOCKED--” is displayed and disabled to open/close the loading tray.

- Setting for selector and some operations for disc

    1. Press “SELECTOR” button to select DVD/CD.

    2. Hold down

        ▶ button on the unit, and then press “Standby/on” button on the remote control for at least 3 seconds.
        “ ---LOCKED--” isdisplayed on the LCD for 3 seconds, and then start to play the disc on the unit. (This indicates the unit enters into sales demonstration lock function.)

    Note:

    When buttons as shown below are pressed, “ ---LOCKED--” is displayed and disabled to operate.

Unit	OPEN/CLOSE ⏏, ■, SELECTOR, ⏸, ⏮/∨, ⏭/∧, RDS(Except for SA-ST1PP)
Remote control	SLEEP, REPEAT, GROUP, FM MODE/SET UP, CH SELECT, TEST, FL DISPLAY, DIMMER, MIX 2CH, TV, VCR/AUX, TUNNER/BAND, 0-9, ≧10, ⏮, ◀◀, ⏭, ▶▶, ■, ⏸, DISPLAY, RETURN, POSITION MEMORY, MUTING,

TOP PREVIOUS NEXT

12.7.2 Cancellation

This function can be cancelled by the same procedures shown above.
(“ -UNLOCKED-” is displayed for about 3 seconds and cancels the sales demonstration lock function.)

12.8 Handling after completing repairs

Perform the following procedures after completing repairs.

1. Close the loading tray to press “OPEN/CLOSE

   ⏏” button.

2. Turn off the power to press “Standby/on” button.

3. Disconnect an AC power supply cord from the outlet.

Note:

Do not disconnect an AC power supply cord from the outlet with the loading tray is still opens, then close the loading tray manually.

13 Service Precautions

TOP PREVIOUS NEXT

13.1 Recovery after the DVD player is repaired

13.2 Firmware version-up of the DVD player

13.3 Cumulative operation time display function

TOP PREVIOUS NEXT

13.1 Recovery after the DVD player is repaired

- When a FROM or module P.C.B. is replaced, carry out the recovery processing to optimize the drive.

  Playback the recovery disc to process the recovery automatically.

- Recovery disc (Product number: RFKZD5TR006 or RFKZD03R004)

- Performing recovery

  1. Load the recovery disc (RFKZD5TR006 or RFKZD03R004) on to the unit and run it.

  2. Recovery is performed automatically. When it is finished, a message appears on the screen.

  3. Remove the recovery disc.

  4. Turn off the power.

Note:

This unit requires no initialization process carried out after the traditional DVD players were repaired.

When the recovery measure are taken, the customer setting will return to the factory preset settings as same as the procedure described in item of “User initialization” in 12.6. is carried out. Write down the contents of the settingbefore recovery processing, and reset the unit.

13.2 Firmware version-up of the DVD player

- The firmware of the DVD player may be renewed to improve the quality including operationality and playback ability to the substandard discs processing to optimize the drive.

  The recovery disc has also firmware version-up.

- After version-up, recovery processing is executed automatically.

- Part number of the recovery disc for version-up will be noticed when it is supplied.

- Updating firmware

  1. Load the recovery disc that is supplied to the unit and run it.

  2. Firmware version of the unit is automatically checked. Appropriate message appears whenever necessary.

  3. Using remote control cursor key, select whether version updating is to be done or not. (Selection of Yes/No)

  4. a. If Yes is selected, version updating is performed.

     b. If No is selected, only recovery is performed.

  5. a. When updating is finished, remove the disc according to the message appearing on the screen.

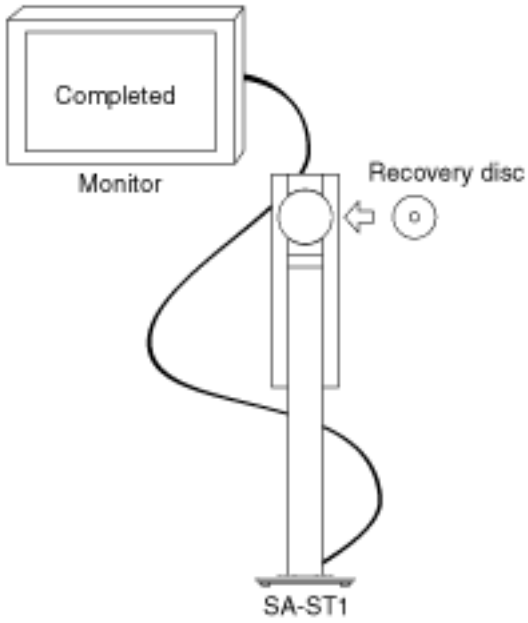
     b. Remove the disc according to the message appearing on the screen.

  6. Turn off the power.

Note:

If the AC power supply is shut down during version-up due to a power failure, the version-up is improperly carried out.

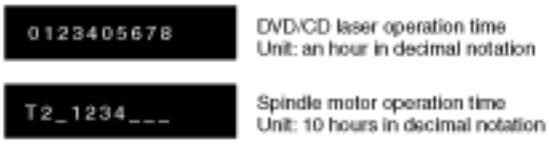
In such a case, replace the FROM and carry out the version-up again.



TOP PREVIOUS NEXT

13.3 Cumulative operation time display function

1. Operation/display



Key operations are as follows.

- Laser operation time.....

  In STOP mode (no disc), while pressing

  ■ button on the unit, press

  ▲ button on the remote control

- Spindle motor operation time.....

  In STOP mode (no disc), while pressing

  ■ button on the unit, press

  ▶ button on the remote control.

To reset the timer, perform the following while displaying the time with above key operation.

- Laser operation time.....

  While pressing

  ■ button on the unit, press

  ▼ button on the remote control.

- Spindle motor operation time.....

  While pressing

- ■ button on the unit, press
- ◄ button on the remote control.

2. How to utilize

   Reference information in fault diagnosis of laser or spindle motor system.

   Review of faulty point in repeated repair.

TOP PREVIOUS NEXT

14 Measurements and Adjustments

TOP PREVIOUS NEXT

14.1 Service tool and equipment

14.2 Important points in adjustments

14.2.1 Important points in optical adjustments

14.3 Storing and handling test discs

14.4 Optical pick-up adjustment

14.4.1 Optical pick-up tilt adjustment

TOP PREVIOUS NEXT

14.1 Service tool and equipment

Applications	Parts Name	Parts Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	Hexagonal wrench	Commercially available (2mm)
Others	Screw lock	RZZ0L01
	Grease	RFKXGAK152,RFKXPG641
Confirmation	CD test disc	PVCD-K06 or any other commercially available disc.
	VCD test disc	
	Recovery disc	RFKZD5TR006 or RFKZD03R004

14.2 Important points in adjustments

TOP PREVIOUS NEXT

14.2.1 Important points in optical adjustments

TOP PREVIOUS NEXT

14.2.1 Important points in optical adjustments

- Before starting optical adjustment, be sure to take an antistatic measures.
- Optical pick-up tilt adjustment is needed after replacement of the following components.

1. Optical pick-up
2. Spindle motor unit
3. Optical pick-up peripheral parts (such as rail)

Remarks:

Adjustment is generally unnecessary after replacing other parts of traverse unit. However, make an adjustment if there is noticeable degradation in picture quality. Optical adjustments cannot be made inside the optical pick-up. Adjustment is generally unnecessaryafter replacing the traverse unit.

14.3 Storing and handling test discs

Surface precision is vital for DVD test discs. Be sure to store and handling them carefully.

- Do not place discs directly onto the workbench etc., after use.
- Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in cool place where they are not exposed to direct sunlight or air from air conditioners.
- Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass etc.. If it is warped, use a new test disc to make optical adjustments.
- If adjustment is performed with a warped disc, the adjustment will be incorrect and some discs will not be playable.

14.4 Optical pick-up adjustment

TOP PREVIOUS NEXT

14.4.1 Optical pick-up tilt adjustment

TOP PREVIOUS NEXT

14.4.1 Optical pick-up tilt adjustment

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw Tilt adjustment screw	T1 (inner periphery) play T43 (outer periphery) play	DVDT-S15 or DVDT-S01
Measurement equipment		Adjustment value	
None (Use the LCD indication on the unit.)		Adjust the jitter value to the minimum level.	

14.4.1.1 Preparation for adjustment

Follow the (Step 1) - (Step 7) of item 15.1. in “Operation Checks and Disassembly Procedures”.

1. Remove the rear panel and stand ass’y.
2. Connect the system cable to jack (JK700), and then to supply the power.

14.4.1.2 Adjustment procedures

1. In STOP mode (no disc), while pressing

   ■ button on the unit, press “5” button on the remote control.

2. Confirm that “xxx-yyy-zz” is shown on the display of the unit.

   For your reference:

   “yyy” and “zz” shown to the right have nothing to do with jitter value. “yyy” is the error counter, while “zz” is the focus drive value.

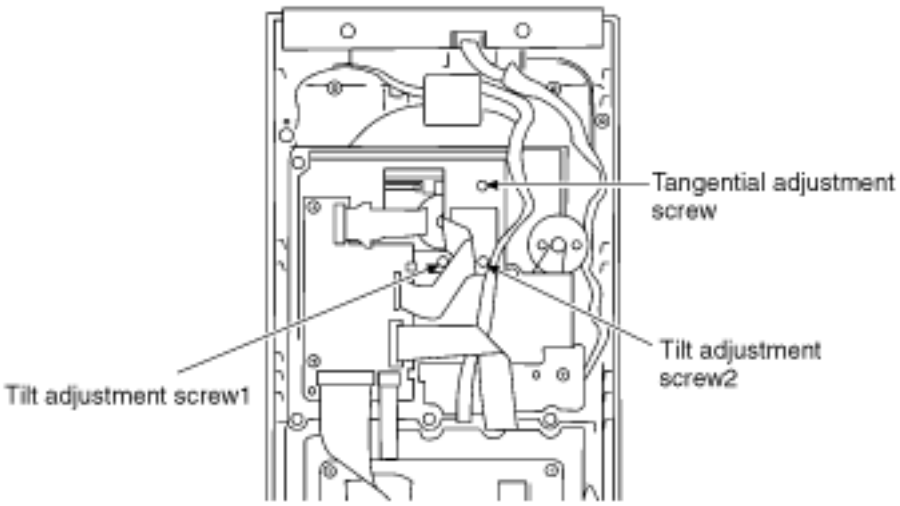
   Note:

   Jitter value appears on the display of the unit.

3. Play test disc T1 (inner periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized. Refer to Fig. 14-1.
5. Play test disc T43 (outer periphery).

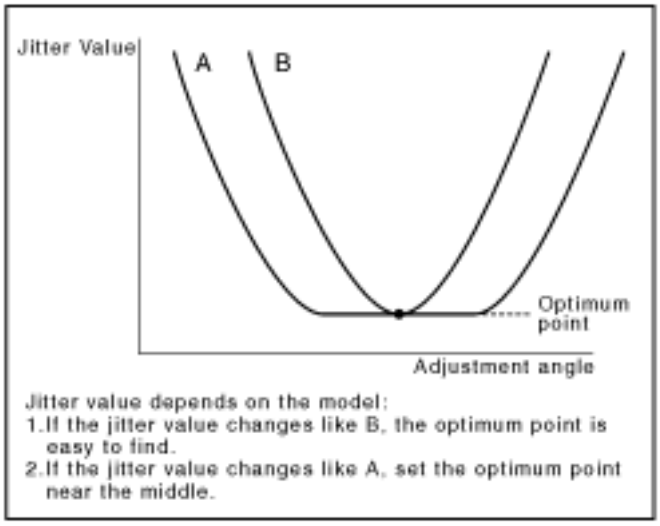
6. Adjust tilt adjustment screw1 so that the jitter value is minimized. Refer to Fig. 14-1.
7. Play test disc T43 (outer periphery).
8. Adjust tilt adjustment screw2 so that the jitter value is minimized. Refer to Fig. 14-1.
9. Repeat adjusting tilt adjustment screw1 and 2 alternately until the jitter value is minimized.

Fig. 14-1.



14.4.1.3 Important point

1. Make tangential adjustment first, and then make tilt adjustment.
2. Repeat adjusting two or three times to find the optimum point.
3. Finish the procedure with tilt adjustment.



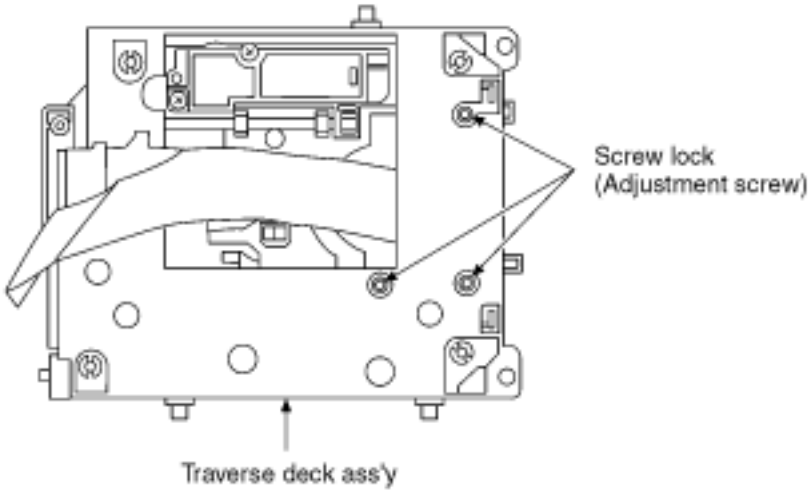
14.4.1.4 Check after adjustment

Play test disc or any other disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping. After adjustment is finished, lock each adjustment screws in position using screw lock.

14.4.1.5 Procedure for screw lock

After the adjustment is performed, fix each adjustment screws with screw lock. Refer to Fig. 14-2.

Fig. 14-2.



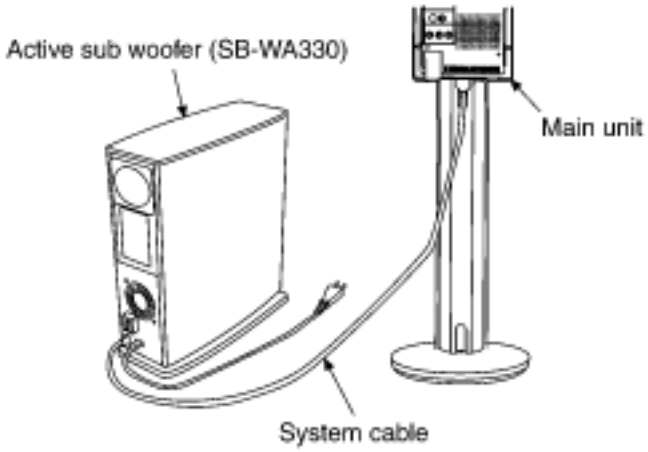
TOP PREVIOUS NEXT

15 Operation Checks and Disassembly Procedures

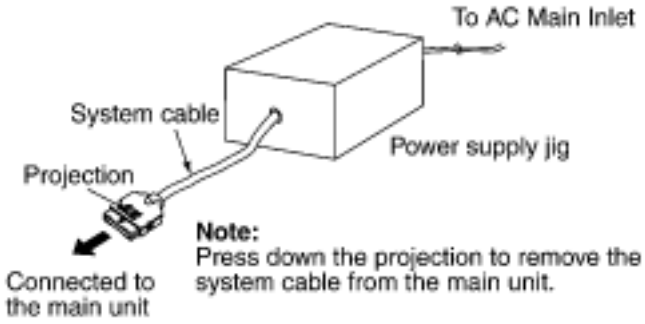
- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

[To supply power source to main unit]

This unit is received power supply from Active sub woofer (SB-WA330). When this unit is performed the operation checks (or checking the P.C.B.), this unit has to connect to Active sub woofer.



When Active sub woofer is not prepared, use the power supply jig to check this unit as shown below.
[Part No.] RFKZ0182 (110 V, 127 V, 220 V, 230 - 240 V for overseas domestic use)



15.1 Checking for the DVD module P.C.B., IN / OUT terminal P.C.B., Interface P.C.B., FL P.C.B. and main P.C.B.

15.2 Replacement for the traverse unit

15.3 Replacement for the optical pick-up

15.4 Replacement for the traverse motor and spindle motor

15.5 Disassembly for loading unit

15.6 Replacement for the motor

15.7 Replacement for the interface P.C.B., detecting SW P.C.B., motor pulley, intermediate gear, gear (A) and drive rack

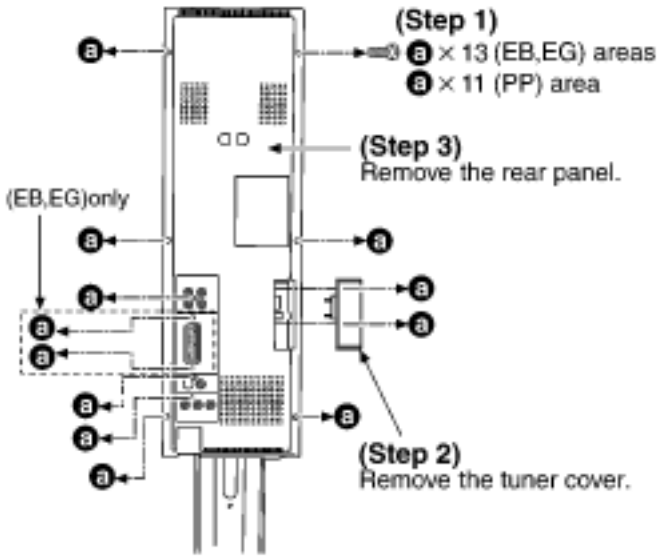
15.8 Replacement for the lid ass ' y

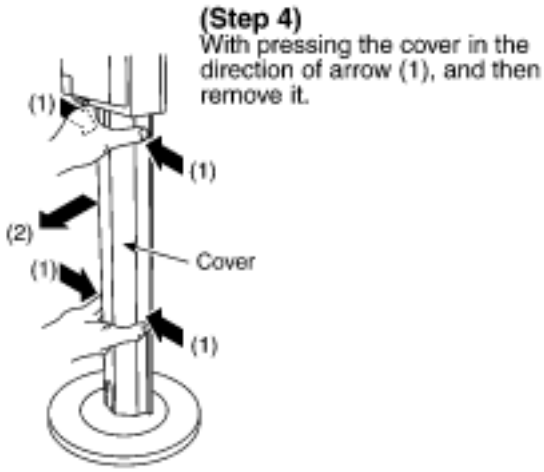
15.9 Replacement for the 8cm holder, lid cover, metal, magnet and magnet holder

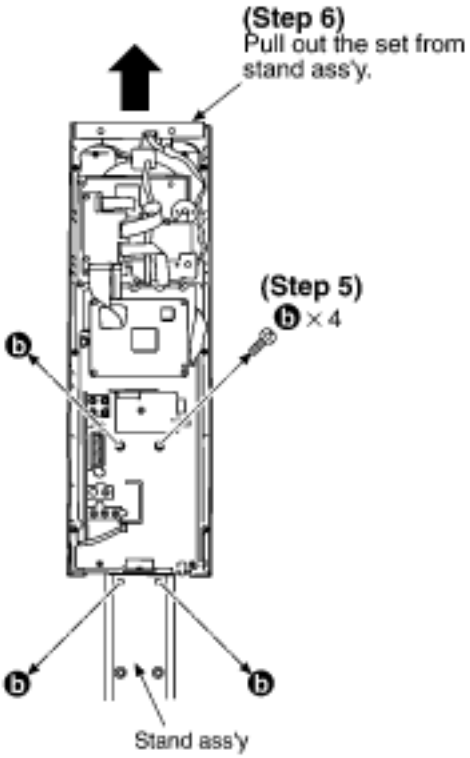
TOP PREVIOUS NEXT

15.1 Checking for the DVD module P.C.B., IN/ OUT terminal P.C.B., Interface P.C.B., FL P.C.B. and main P.C.B.

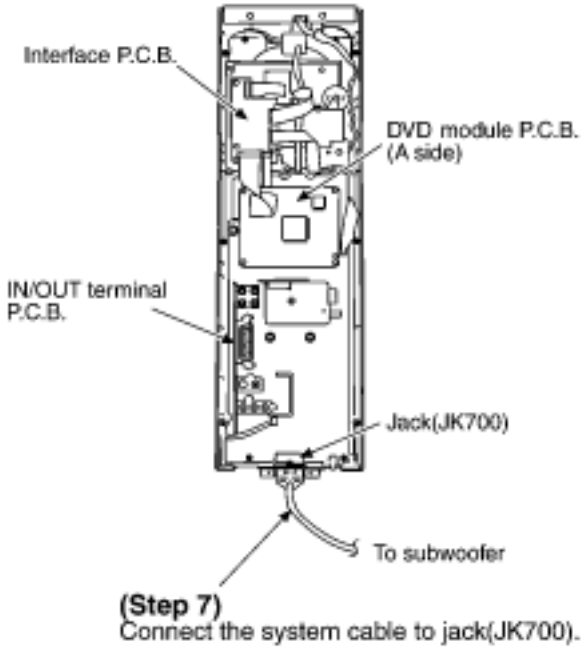
TOP PREVIOUS NEXT

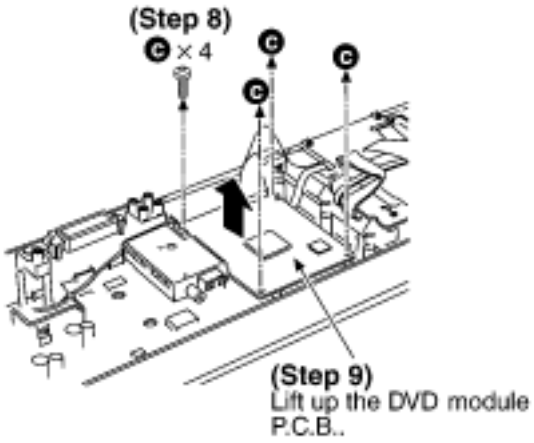




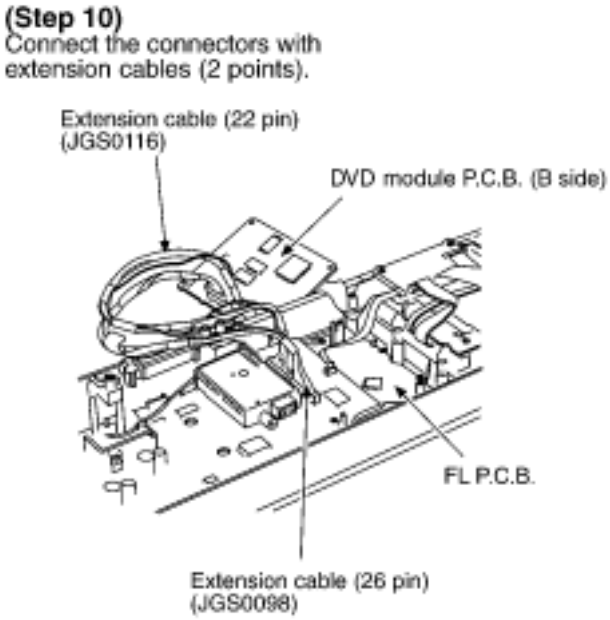


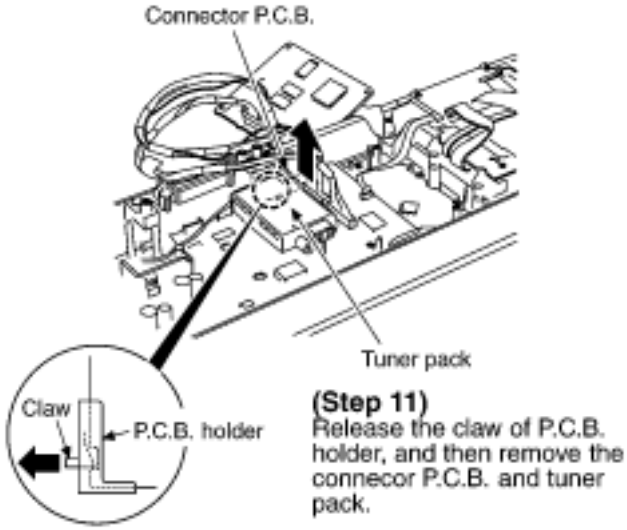
- Check the DVD module P.C.B. (A side), IN/OUT terminal P.C.B. and interface P.C.B. as shown below.



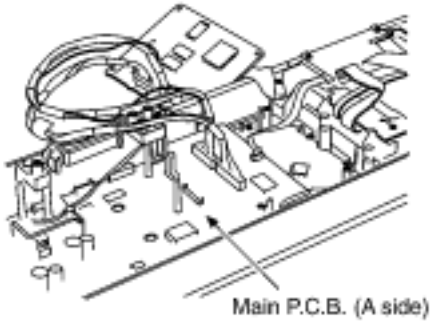


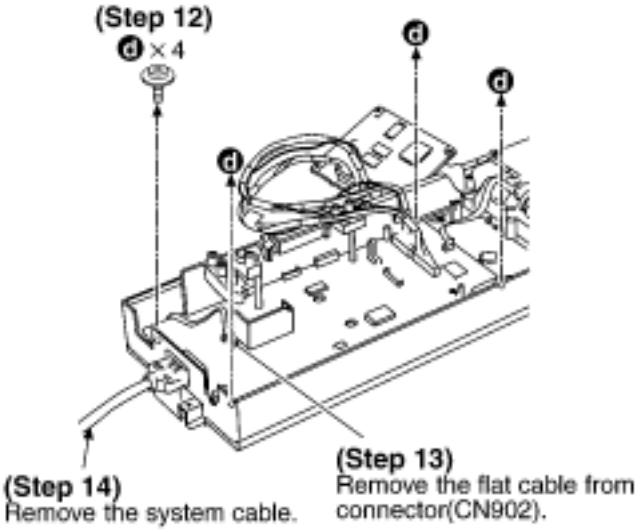
- Check the DVD module P.C.B. (B side) and FL P.C.B. as shown below.



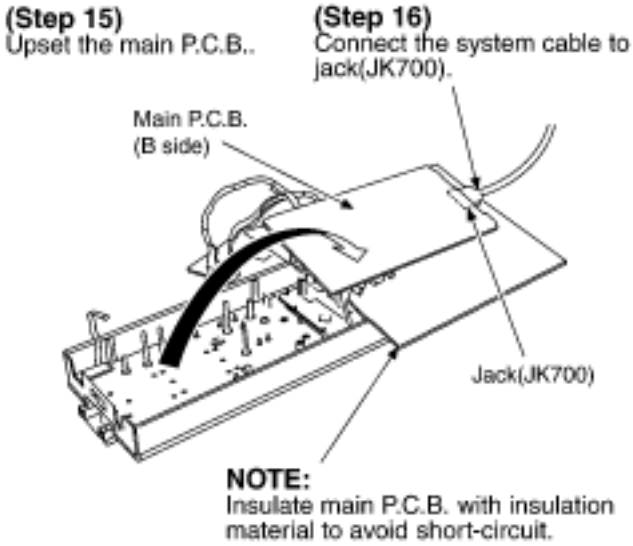


- Check the main P.C.B. (A side) as shown below.





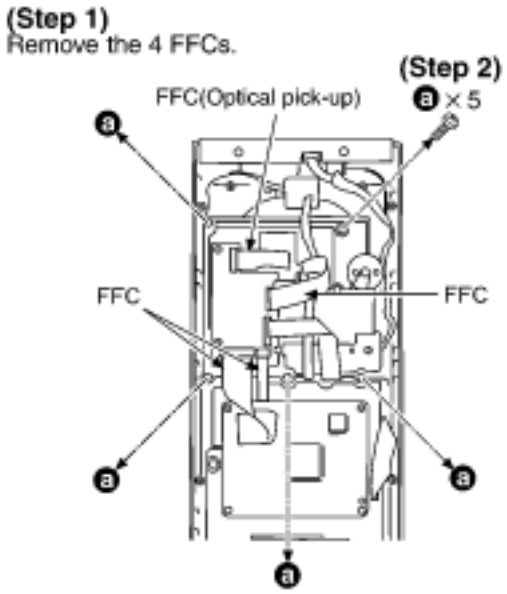
- Check the main P.C.B. (B side) as shown below.



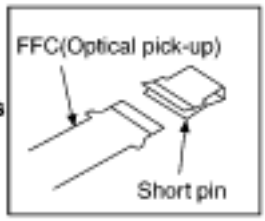
TOP PREVIOUS NEXT

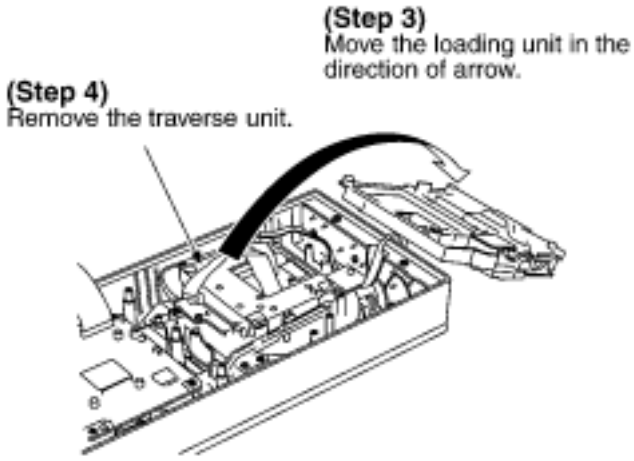
15.2 Replacement for the traverse unit

- Follow the (Step 1) - (Step 6) of item 15.1.



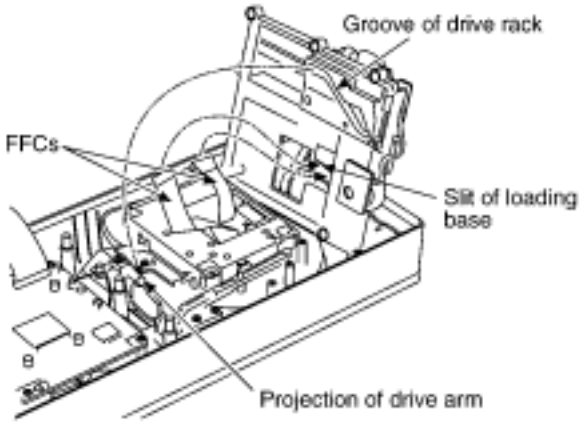
Caution:
Insert short pin into the traverse unit FFC .
(Refer to "**Handling Precautions for Traverse Deck**".)





Notice for loading unit installation

1. Align the groove of drive rack with the projection of drive arm.
2. Pass the 2 FFCs through the slit of loading base.

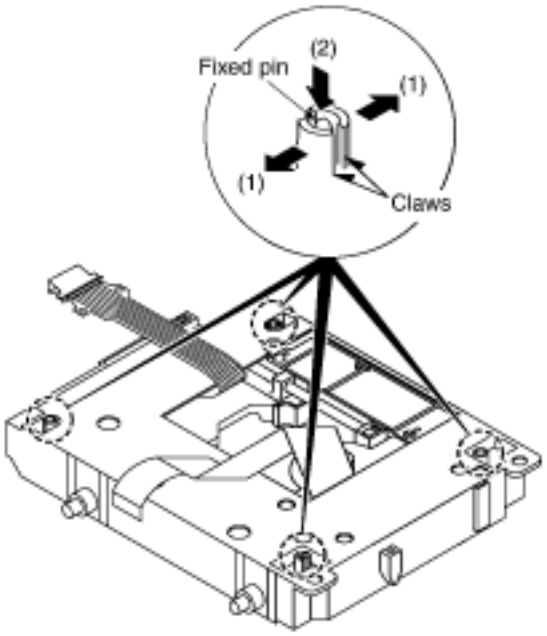


TOP PREVIOUS NEXT

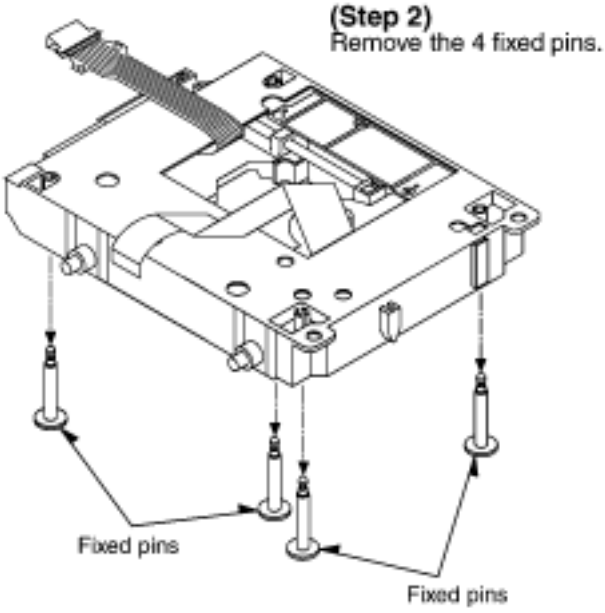
15.3 Replacement for the optical pick-up

- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 4) of item 15.2.

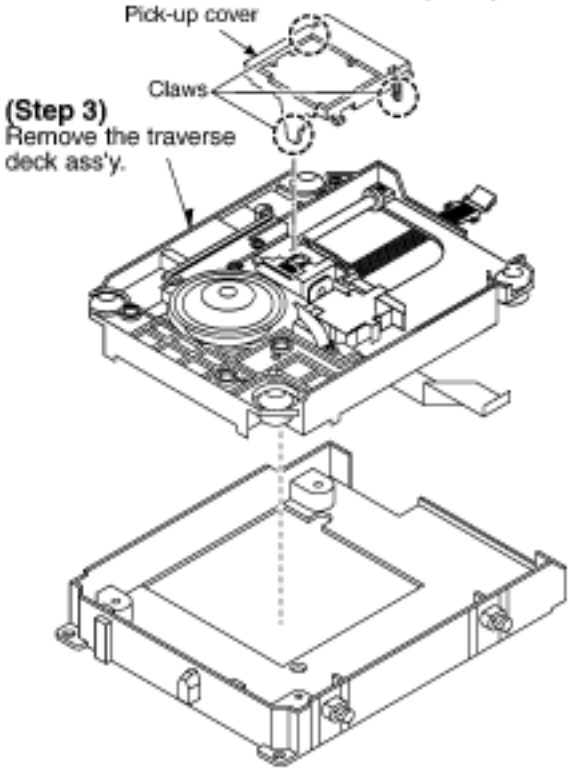
(Step 1)
Release the 2 claws, and then push the fixed pin in the direction of arrow.



(Step 2)
Remove the 4 fixed pins.

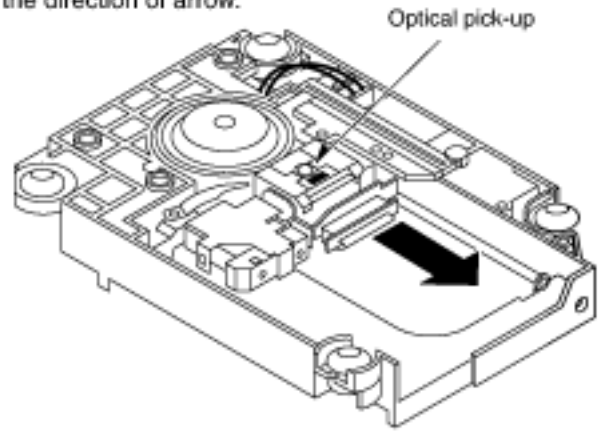


(Step 4)
Release the 3 claws, and then remove the pick-up cover.

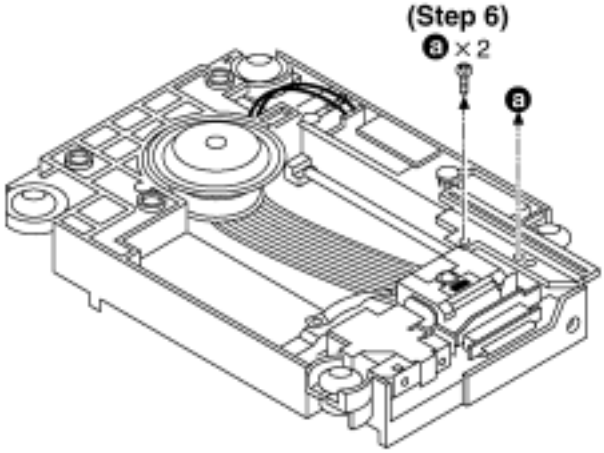


(Step 3)
Remove the traverse deck ass'y.

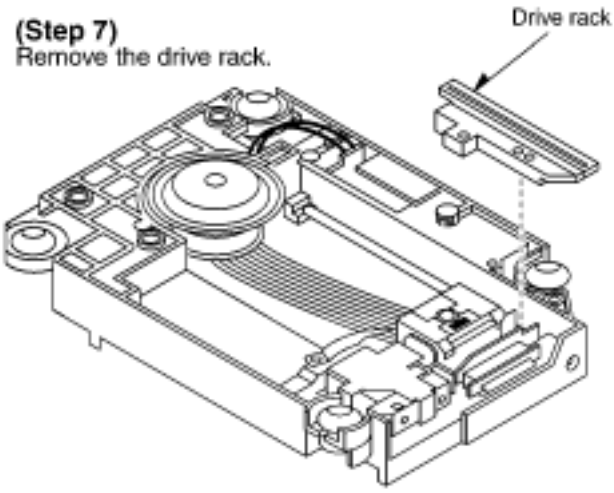
(Step 5)
Move the optical pick-up in the direction of arrow.



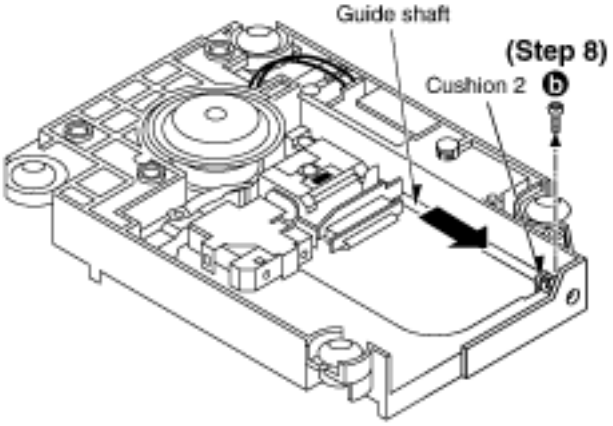
(Step 6)



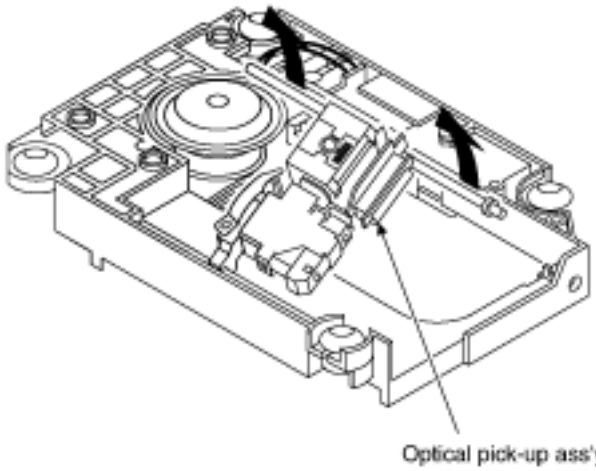
(Step 7)
Remove the drive rack.

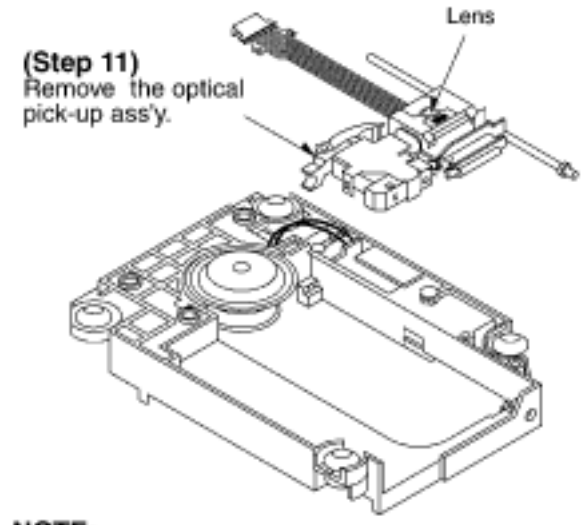


(Step 9)
Move the guide shaft in the direction of arrow.



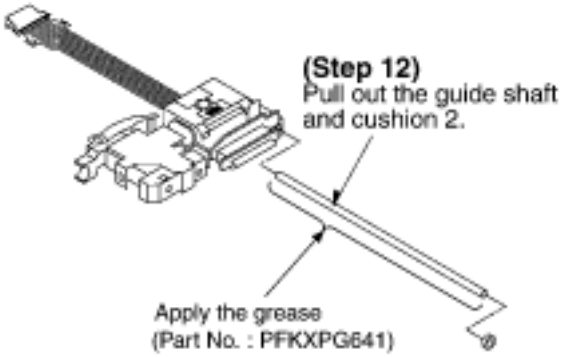
(Step 10)
Lift up the optical pick-up ass'y.



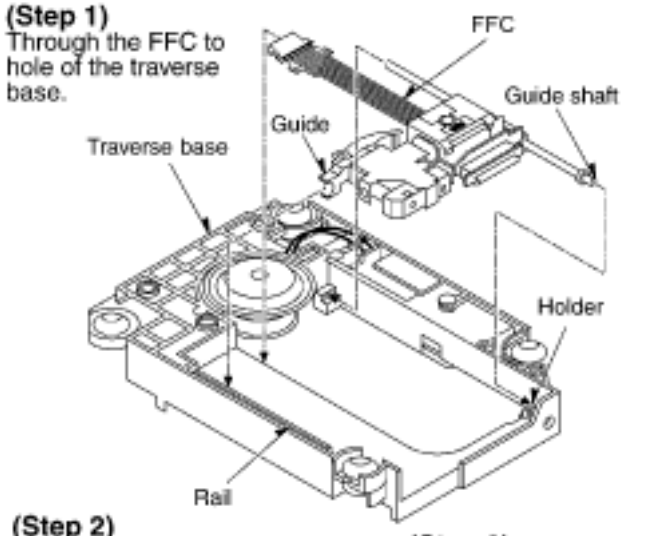


NOTE:

1. Use care to prevent damage the optical pick-up, due to the precision construction.
2. Do not touch the lens of the optical pick-up.



Installation of the optical pick-up ass'y



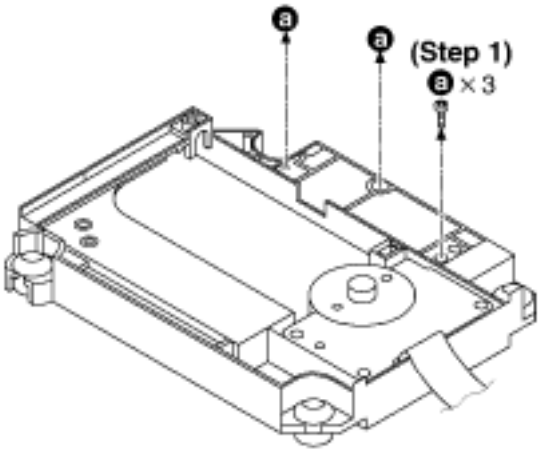
(Step 2)
Put on the guide of optical pick-up to the rail.

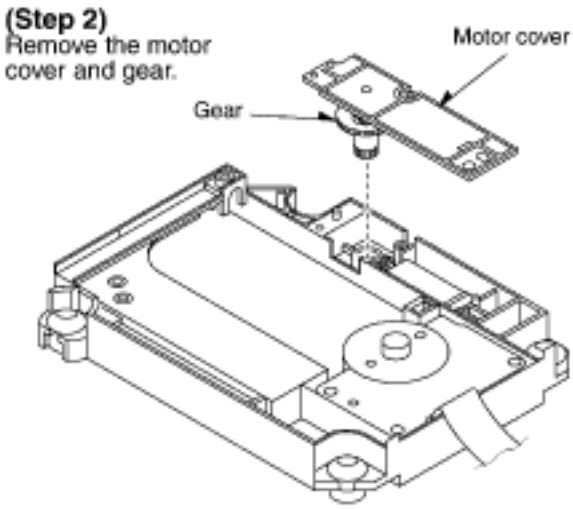
(Step 3)
Install the guide shaft to the holder.

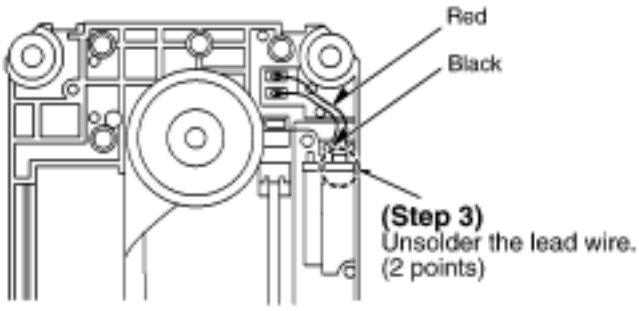
TOP PREVIOUS NEXT

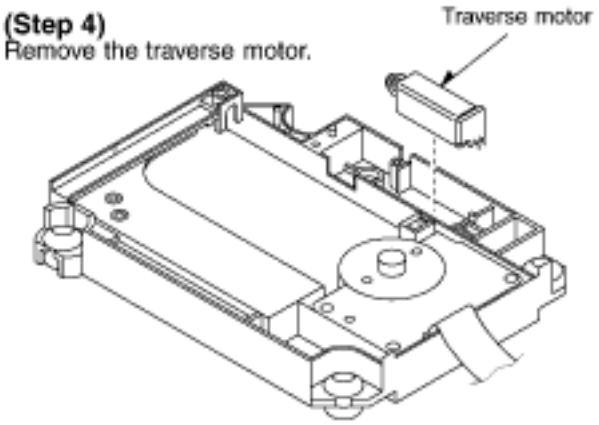
15.4 Replacement for the traverse motor and spindle motor

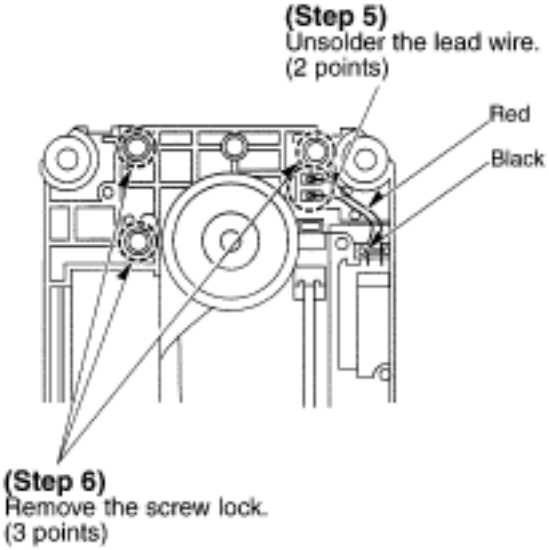
- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 4) of item 15.2.
- Follow the (Step 1) - (Step 11) of item 15.3.



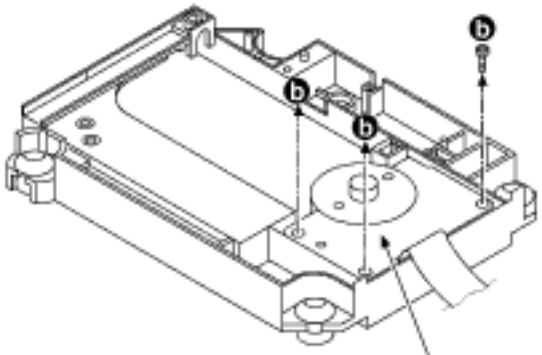



Red
Black
(Step 3)
Unsolder the lead wire.
(2 points)

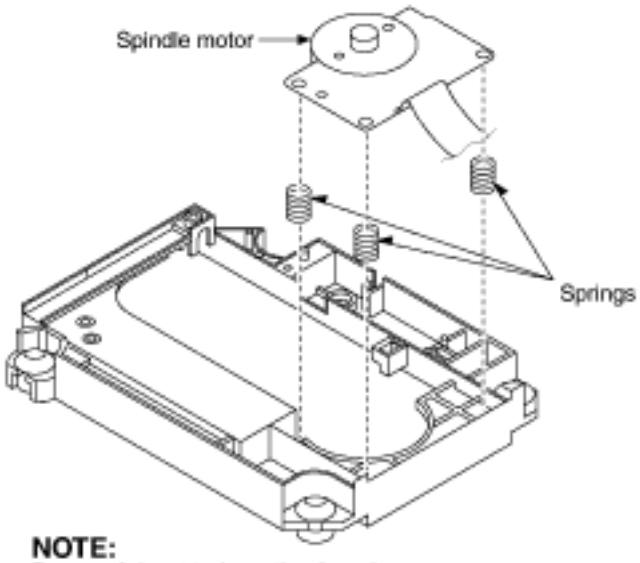

(Step 4)
Remove the traverse motor.
Traverse motor


(Step 5)
Unsolder the lead wire.
(2 points)
Red
Black
(Step 6)
Remove the screw lock.
(3 points)

(Step 7)
Remove the screws(ⓑ× 3) with minus screwdriver(1.8 mm).



(Step 8)
Remove the spindle motor.

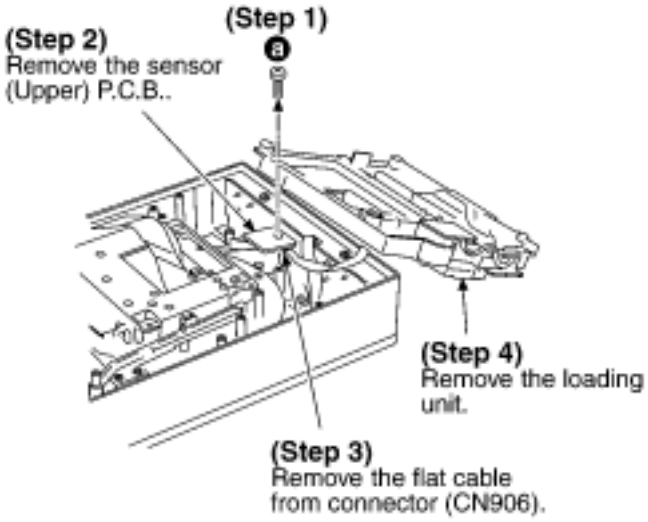


NOTE:
Be careful not to lose the 3 springs because those will also be removed on removal of the spindle motor.

TOP PREVIOUS NEXT

15.5 Disassembly for loading unit

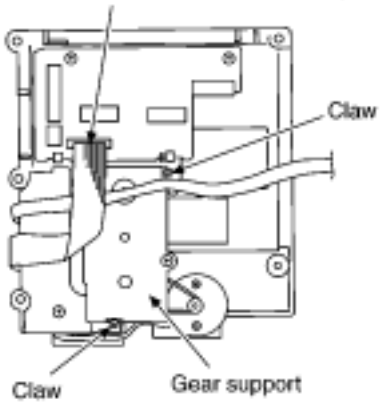
- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 3) of item 15.2.



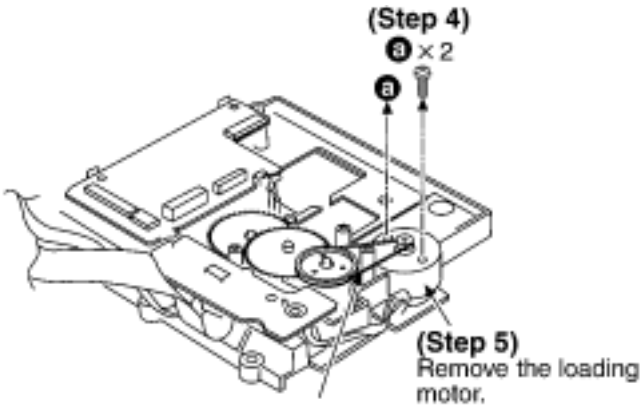
15.6 Replacement for the motor

- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 3) of item 15.2.
- Follow the (Step 1) - (Step 4) of item 15.5.

(Step 1)
Remove the flat cable from connector (CN2501).



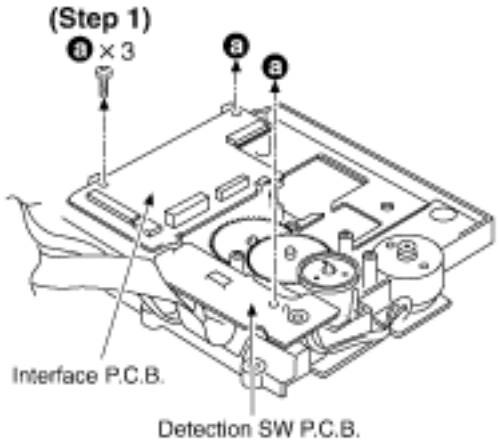
(Step 2)
Remove the 2 claws, and then remove the gear support.




(Step 6)
Unsolder the terminals.
Motor P.C.B.
Motor
(−)
(+)
Motor

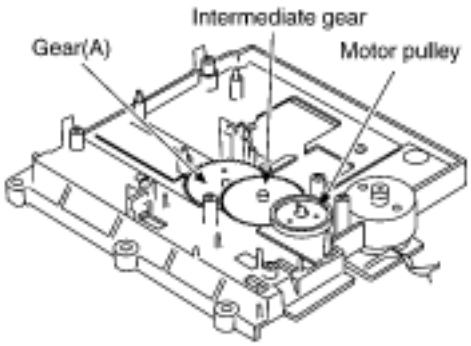
15.7 Replacement for the interface P.C.B., detecting SW P.C.B., motor pulley, intermediate gear, gear (A) and drive rack

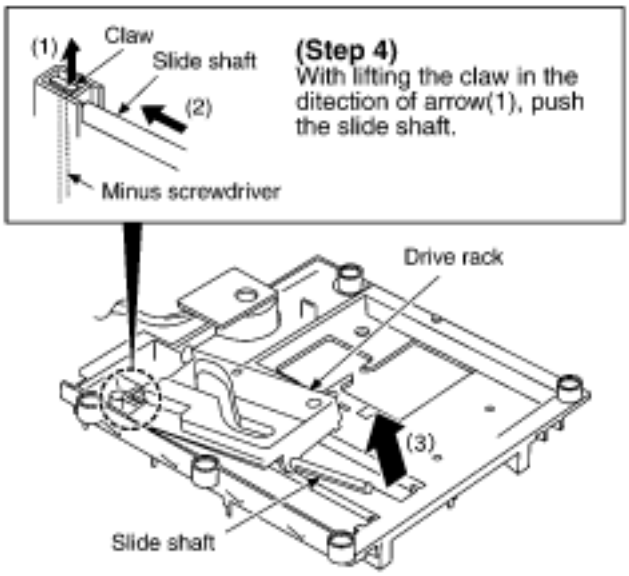
- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 3) of item 15.2.
- Follow the (Step 1) - (Step 4) of item 15.5.
- Follow the (Step 1) - (Step 3) of item 15.6.



(Step 2)
Remove the interface P.C.B. and detection SW P.C.B..

(Step 3)
Remove the motor pulley, intermediate gear and gear(A).





(Step 4)
With lifting the claw in the ditection of arrow(1), push the slide shaft.

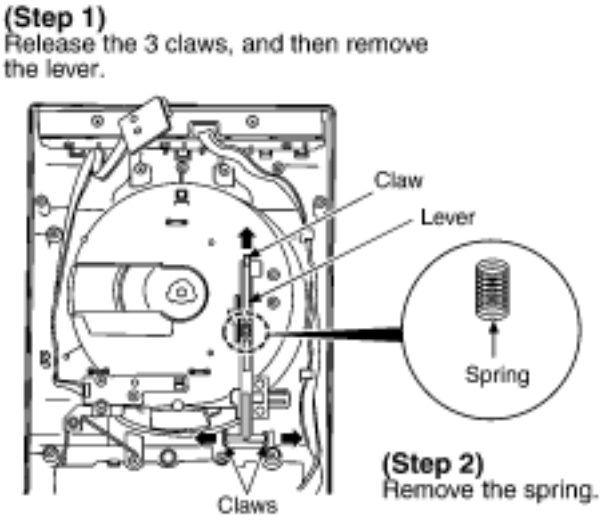
(Step 5)
Lift up the slide shaft,and then remove the drive rack and slide shaft.

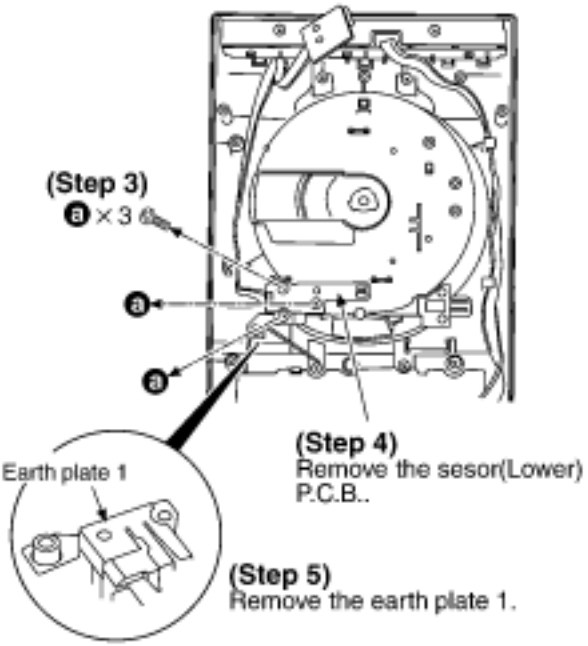
NOTE:
Be careful not to break it that push the claw strongly.

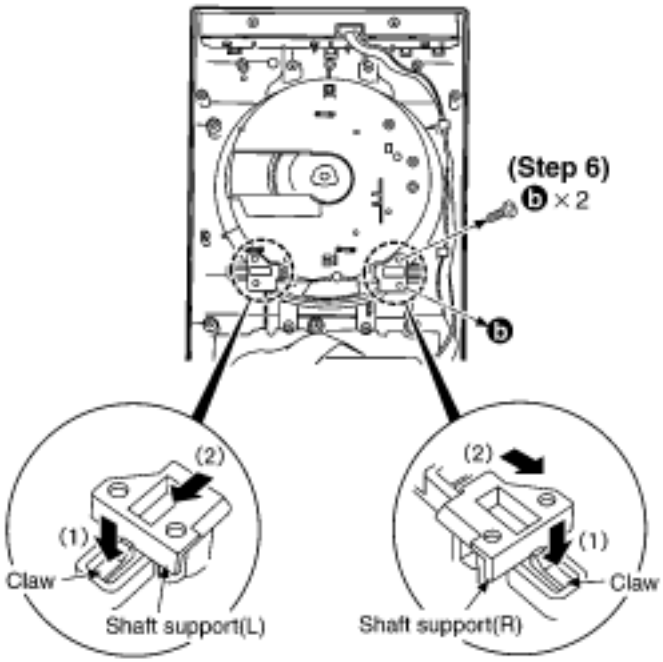
TOP PREVIOUS NEXT

15.8 Replacement for the lid ass’ y

- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 4) of item 15.2.

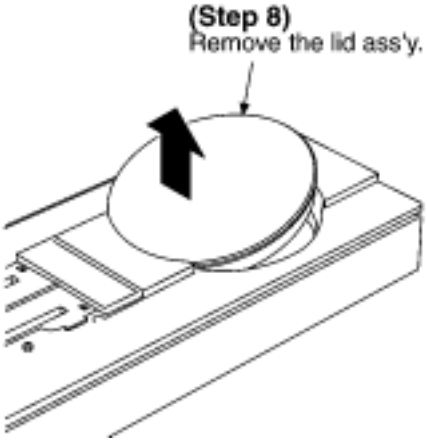






(Step 7)
With pressing the claw in the direction of arrow (1) , slide the shaft support (L),(R) in the direction of arrow (2).

(Step 8)
Remove the lid ass'y.

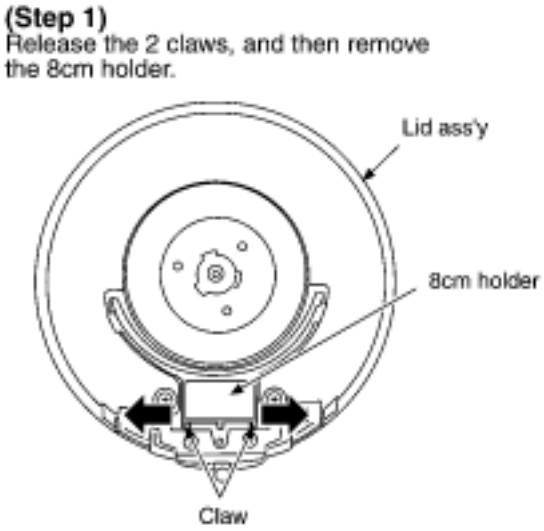


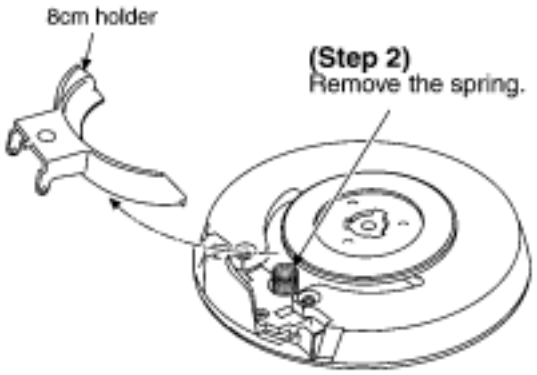
TOP PREVIOUS NEXT

15.9 Replacement for the 8cm holder, lid cover, metal, magnet and magnet holder

TOP PREVIOUS NEXT

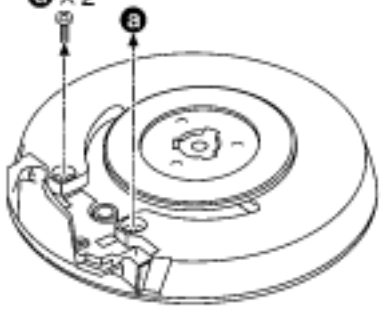
- Follow the (Step 1) - (Step 6) of item 15.1.
- Follow the (Step 1) - (Step 4) of item 15.2.
- Follow the (Step 1) - (Step 8) of item 15.8.





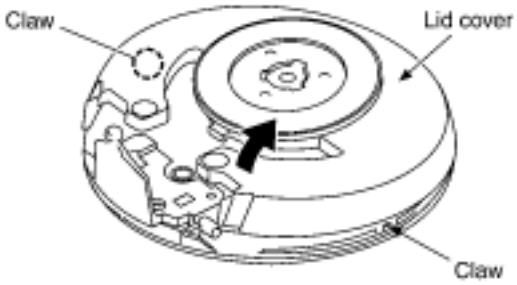
(Step 3)

ⓐ × 2



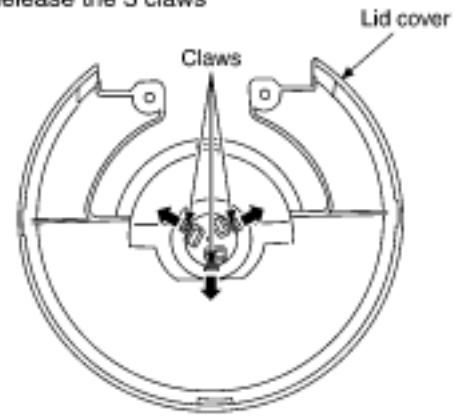
(Step 4)

Release the 2 claws, and then remove the lid cover.

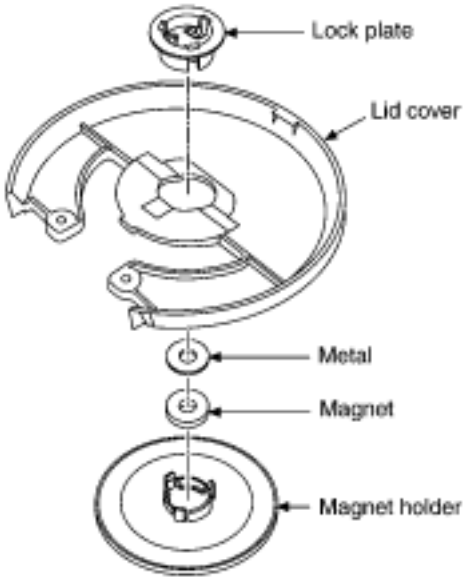


(Step 5)

Release the 3 claws



(Step 6)
The parts illustrated below will be free.



TOP PREVIOUS NEXT

16 Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S901:

  For SA-ST1PP
  Standby/on switch (POWER

  
)
  Except for SA-ST1PP
  Standby/on switch (

  
)

- S902:

  Open/close switch
  (OPEN/CLOSE

  
)

- S903:

  Play switch (

  
)

- S904:

  Pause switch (

  
)

- S905:

  Stop switch (

■)

- S906:

  R.skip preset channel, TV channel down switch (

  ⏮/∨)

- S907:

  F.skip preset channel, TV channel up switch (

  ⏭/∧)

- S908:

  Volume switch (VOLUME-)

- S909:

  Volume switch (VOLUME+)

- S910:

  Source selector switch (SELECTOR)

- S911:

  For SA-ST1PP
  Progressive out switch
  (PROGRESSIVE OUT)
  Except for SA-ST1PP
  RDS switch (RDS)

- S912:

  Custom sound memory switch
  (CUSTOM SOUND MEMORY)

- S913:

  Loading tray open detect switch in OFF position

- S914:

  Loading tray close detect switch in ON position

- S915:

  Laser ON/OFF switch in ON position

- 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 theinternal impedance of the DC circuit tester.

  - No mark

    : DVD/CD stop

  - ( )

    : DVD/CD play

- Important 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.

- The supply part number is described alone in the replacement parts list.

- Voltage and signal line

  - 

    : Positive voltage line

  - 

: Negative voltage line

- 

  : Audio signal line

- 

  : Video signal line

- 

  : Audio & Video signal line

- 

  : FM/AM signal line

- 

  : Center sp. signal line

- 

  : Sub woofer signal line

- 

  : Surround sp. signal line

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

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17 Schematic Diagram

18 Printed Circuit Board Diagram

19 Type Illustration of ICs, Transistors and Diodes

20 Wiring Connection Diagram

21 Block Diagram

22 Terminal Function of ICs

TOP PREVIOUS NEXT

22.1 IC801(C2CBJH000054): System Control

TOP PREVIOUS NEXT

22.1 IC801(C2CBJH000054): System Control

Pin No.	Terminal Name	I/O	Function
1	VSEL B	-	Not used, open
2	VSEL A	-	Not used, open
3	VMUTE2	O	Component out select signal output
4	VMUTE1	O	Video out mute signal output
5	WIDE1	O	Wide1 setting signal output
6	DWIDE1	O	D wide1 setting signal output
7	DWIDE2	O	D wide2 setting signal output
8	BYTE	-	Not used, connected to GND
9	CNVSS	-	GND
10	NC	-	Not used, open
11	NC	-	Not used, open
12	/RESET	I	Reset signal input
13	XOUT	O	Oscillator connected terminal (F=10 MHz)
14	VSS	-	GND
15	XIN	I	Oscillator connected terminal (F=10 MHz)
16	VCC	I	Power supply terminal
17	/MNI	I	Power supply terminal
18	AC IN	I	Power failure detect signal input
19	REMO CON	I	Remote control signal input
20	NC	-	Not used, open
21	DRV1	O	Loading tray control signal output
22	DRV2	O	Loading tray control signal output
23	DRY MUTE	O	Loading tray control signal output
24	CLOSE SW	I	Loading tray close SW detect signal input
25	OPEN SW	I	Loading tray open SW detect signal input
26	TRY/TRV	O	Loading tray/traverse drive select signal output
27	DVD MUTE	I	DVD mute signal input
28	D CLK	I	DVD clock signal input
29	D ST	I	DVD status signal input

30	D CMD	I	DVD command signal input
31	FL DA	O	FL drive IC data signal output
32	FL CS	O	FL drive IC chip select signal output
33	FL CK	O	FL drive IC clock signal output
34	FL RST	O	FL drive IC reset signal output
35	M SO	-	Not used, open
36	M SI	-	Not used, open
37	M CK	-	Not used, open
38	M RST	-	Not used, open
39	SW4	I	Not used, connected to VCC via resistor
40	SW3	I	Not used, connected to VCC via resistor
41	EPM	-	Not used, connected to GND via resistor
42	SW2	I	Not used, connected to VCC via resistor
43	SW1	I	Not used, connected to VCC via resistor
44	JOG A	I	Not used, connected to VCC via resistor
45	JOG B	I	Not used, connected to VCC via resistor
46	CE	I	Not used, connected to VCC via resistor
47	HP SW	I	Headphone connecting detect signal input
48	AAC ST	O	Store signal output for IC400
49	AAC DA	O	Data signal output for IC400
50	AAC CK	O	Clock signal output for IC400
51	VOL LA	O	4 ch volume latch signal output
52	VOL DA	O	4 ch volume data signal output
53	VOL CK	O	4 ch volume clock signal output
54	HP MUTE	O	Headphone muting signal output
55	ECS	O	EEPROM chip select signal output
56	EDA	I/O	EEPROM data signal input/output
57	ECK	O	EEPROM clock signal output
58	NC	-	Not used, open
59	NC	-	Not used, open
60	NC	-	Not used, open
61	CF1/2	O	Center focus 1/2 select signal output
62	VCC	I	Power supply terminal
63	CF ON/OFF	O	Center focus ON/OFF signal output
64	VSS	-	GND
65	BS L	-	Not used, open

66	PCONT	O	Power supply control signal output
67	DVD PWCNT	O	DVD module power supply control signal output
68	D3V ON/OFF	O	DVD module power supply control signal output
69	VOL AT	O	Attenuator control signal output
70	SUB W MIXSW	O	Sub woofer mute signal output
71	MUT S	O	Center and surround speaker mute signal output
72	MUT A	O	Front speaker and sub woofer mute signal output
73	MUTE H	O	Power amp mute signal output
74	DSP RST	O	DSP reset signal output
75	DSP DA	O	DSP data signal output
76	DSP CK	O	DSP clock signal output
77	DSP CS	O	DSP chip select signal output
78	DC DET	I	DC detect signal input
79	TUN CE	O	PLL chip enable signal output
80	TUN CK	O	PLL clock signal output
81	TUN DI M	I	Tuner data/stereo signal input
82	TUN DO M	O	PLL data signal output
83	TUN SD	I	Tuner signal detect signal input
84	RDS RDY	I	RDS ready signal input
85	RDS IN	I	RDS data signal input
86	RDS CK	I	RDS clock signal input
87	AAC RQM	-	Not used, open
88	AAC RQS	-	Not used, open
89	AAC MUTE	-	Not used, open
90	DPL MODE	I	Connected to VREF via resistor
91	MT1/ST1	I	Model select signal input
92	PROG/ INT	I	Progressive/interlace select signal input
93	DES3	-	Connected to GND via resistor
94	DES2	-	Connected to GND via resistor
95	DES1	-	Connected to GND via resistor
96	AVSS	-	GND
97	KEY	I	Operation key signal input
98	VREF	I	Reference voltage input terminal
99	AVCC	I	Power supply terminal

100	525P	O	Progressive ON/OFF signal output

TOP PREVIOUS NEXT

23 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	SERVOAMP 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	SYSTEMCLOCK 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	CHIPSELECT
	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	DROPOUT
	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
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 OVERSAMPLING) 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
	IPFLAG	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/OMASK
	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
	PLLOK	PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSEWAVE MOTOR DRIVE A
	PWMOA, B	PULSE WAVE MOTOR OUT A, B
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE OUTPUT
	RS	(CD-ROM) REGISTER SELECT
	RSEL	RF POLARITY SELECT
	RST	RESET
	RSV	RESERVE
S	SBCK	SUB CODE CLOCK
	SBI0, 1	SERIAL DATA INPUT
	SB00	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK RECEIVER
	SCL	SERIAL CLOCK
	SCLK	SERIAL CLOCK
	SDA	SERIALDATA
	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	SERIALPORT 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	STREAMDATA POLARITY SELECT
	STVALID	STREAM DATA VALIDITY
	SUBC	SUB CODE SERIAL
	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	TRACKCROSS SIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON
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
	VSS	SOURCEPOWER SUPPLY VOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER

X	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 INTERRUPTREQUEST
	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 CHIPSELECT
	XVDS	X V-DEC CONTROL BUS STROBE
	XVSYNCO	X VERTICAL SYNC OUTPUT

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24 Replacement Parts List

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Notes:

- Important 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 manufacture's specified parts shown in the parts list.

- The parenthesized indications in Remarks columns specify the areas.

  (PP): SA-ST1PP

  (EB): SA-ST1EB

  (EG): SA-ST1EG

- The marking [RTL] indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

- All parts are supplied by SPC.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	XYN4+F16F	SCREW	6	
2	XTWS3+10T	SCREW	4	
3	XTW3+15T	SCREW	4	
4	XTB3+10J	SCREW	10	
5	XTB3+8JFZ	SCREW	13	
6	RSC0666-1	REAR SHIELD	1	
9	RKF0662A-H	TUNER COVER	1	
10	RKF0661-S	STAND COVER	1	

11	RKF0660-H	COVER	1	
12	RKA0146-H	CUSION	5	
13	RGP0975A-H	REAR PANEL	1	(PP)
13	RGP0975B-H	REAR PANEL	1	(EB)(EG)
14	RMX0249	SPACER A	1	
15	RMX0250	SPACER B	1	
16	REZ1518	FFC(50P)	1	
17	RSC0665-2	FRONT SHIELD	1	
18	REZ1520-1	FFC(7P)	1	
19	REZ1519-1	FFC(14P)	1	
20	RGU2171-S	BUTTON,POWER ETC	1	
21	RSC0682	EARTH PLATE 1	1	
23	RMQ1200	STOPPER	1	
24	RMR1513-W	LED FILTER	1	
25	RMQ1179	SHAFT SUPPORT(R)	1	
26	RMQ1178	SHAFT SUPPORT(L)	1	
27	RML0644	LEVER	1	
28	RMN0203	P.C.B. HOLDER	2	
29	RME0391	EARTH SPRING	1	
30	RME0385	SPRING	1	
31	RGG0221-S	PANEL ORNAMENT 2	1	
32	RGG0220-S	PANEL ORNAMENT 1	1	
33	REZ1542	WIRE ASS´Y	1	
34	XQN2+C3	SCREW	2	
35	RMS0800	SLIDE SHAFT	1	
36	RMQ1180	GEAR SUPPORT	1	
37	RMK0554	LOADING BASE	1	
38	RDV0070	BELT	1	
39	RDP0088	MOTOR PULLY	1	
40	RDK0043	DRIVE RACK	1	
41	RDG0561	GEAR	1	
42	RDG0546	PULLEY	1	
43	RDG0544	GEAR	1	
44	MDN4RB6SZA	MOTOR	1	

45	RYQ0410A-S	LID ASS´Y	1	(PP)
45	RYQ0410-S	LID ASS´Y	1	(EB)(EG)
45-1	RGC0029-K	SENSOR SHEET 1	1	
45-2	RGC0030-K	SENSOR SHEET 2	1	
45-3	RMB0509-1	SPRING	1	
45-4	RMF0326	DISC SHEET	2	
45-5	RML0643	DRIVE ARM	1	
45-6	RMR1505-K	8CM HOLDER	1	
45-7	RME0392	SPRING	1	
45-8	XTB3+10JFZ	SCREW	4	
45-9	RMQ0653	MAGNET	1	
45-10	RKF0659-S1	LID COVER	1	
45-11	RMA1003	METAL	1	
45-12	RMR1504-K	LOCK PLATE	1	
45-13	RYQ0408-K	MAGNET HOLDER	1	
45-14	RSC0697	GASKET	1	(PP)
46	XYA3+FJ10	SCREW	4	
47	REZ1514	WIRE ASS´Y	1	
48	REZ1516	WIRE ASS´Y	1	
49	REZ1567	WIRE ASS´Y	1	
50	REZ1566	WIRE ASS´Y	1	
51	REZ1561	FLAT CABLE	1	
52	RMN0738	FL HOLDER	1	
53	XTB3+10JFZ	SCREW	29	
54	RGK1604-K	PANEL ORNAMENT 3	1	
55	RGK1605-K	PANEL ORNAMENT 4	2	
56	RGK1606A-S	TRAY ORNAMENT	1	(PP)
56	RGK1606-S	TRAY ORNAMENT	1	(EB)(EG)
57	RGP0974A-S	FRONT PANEL	1	(PP)
57	RGP0974B-S	FRONT PANEL	1	(EB)(EG)
58	RKW0716-K	PANEL ORNAMENT 5	1	
59	RKW0717-K	PANEL ORNAMENT6	1	
60	RKW0718-S	FL WINDOW	1	
61	RGB0036-1S	PANASONIC BADGE	1	

62	RGG0222-S1	ORNAMENT 1	1	(PP)
62	RGG0222A-S	ORNAMENT 1	1	(EB)(EG)
63	RGN2446-K	NAME PLATE	1	(PP)
63	RGN2446A-K	NAME PLATE	1	(EB)(EG)
64	RSC0700	EARTH PLATE 2	1	(PP)
65	RSC0705	SHIELD PLATE	1	(PP)
67	RQCC2036	ENERGY LABEL	1	(PP)
68	RQLA0724	CONNECTOR CAUTION LABEL	1	(PP)
69	RQLS0288	LASER CAUTION LABEL	1	
70	RSC0693	SHIELD PLATE	1	(PP)
70	RSC0690	SHIELD PLATE	1	(EB)(EG)
71	RQLS0277	CAUTION LABEL	1	(PP)
71	SQWD7	CAUTION LABEL	1	(EB)(EG)
73	J0KD00000018	FERRITE CORE 1	1	
74	J0KE00000064	FERRITE CORE 2	1	
75	RSC0691	SHIELD PLATE	1	
76	RSC0692	EARTH SPRING	1	
301	RMG0598-A	FLOATING RUBBER	4	
302	BML3E1CRL	SPINDLE MOTOR	1	
303	REU33K028S	WIRE ASS´Y(BLACK)	1	
304	REU33R032S	WIRE ASS´Y(RED)	1	
305	RHD17040	SCREW	2	
306	RHD17042	SCREW	3	
307	RMB0713	SPRING	1	
308	RMB0714	SPRING	3	
309	RMG0618-H	CUSHION 1	1	
310	RMS0798	SHAFT 1	1	
311	RMX0247	WASHER	1	
312	VHD1224	SCREW	4	
313	RDG0557	SHAFT 2	1	
314	RDG0558	RING	1	
315	RMM0252	DRIVE RACK	1	
316	RMQ1112	MOTOR COVER	1	
317	RMR1466-K	TRAVERSE BASE	1	

318	RMX0233	WASHER	1	
319	RXQ0946	MOTOR	1	
320	RAF3023A-1	OPTICAL PICK-UP	1	⚠
321	RHD14095	SCREW	1	
322	RJB2621A	FFC	1	
323	RMG0617-H	CUSHION 2	1	
324	RMS0788	GUIDE SHAFT	1	
325	RMR1467-K	MIDDLE CHASSIS	1	
326	RMS0789	FIXED PIN	4	
327	RMR1519-K	PICK-UP COVER	1	
A1	EUR7623X20	REMOTE CONTROL	1	(PP)
A1	EUR7623X40	REMOTE CONTROL	1	(EB)(EG)
A1-1	UR76EC2303B	BATTERY COVER	1	
A2	K1HA25JA0002	SYSTEM CABLE	1	
A3	K2KA2HA00003	VIDEO CABLE	1	
A4	N1DAAAA00001	AM LOOP ANTENNA	1	
A5	RSA0007	FM INDOOR ANTENNA	1	N1EAYY000002
A6	QWBG002AA	CLIP	4	
A7	RFA0631A-K	SHEET OF SPEAKER FEET	1	
A8	REE1203C	SPEAKER CABLE(10M)	2	
A9	REE1203A	SPEAKER CABLE(4M)	3	
A10	RJA0065-K	AC POWER SUPPLY CORD	1	⚠ K2CB2CB00005 (PP)
A10	RJA0053-3X	AC POWER SUPPLY CORD	1	⚠(EB)
A10	RJA0019-2X	AC POWER SUPPLY CORD	1	⚠(EG)
A11	RMF0321	STRING FOR MAIN UNIT	1	
A12	XSN5+16FN	SCREW	8	
A13	XTB3+10JFZ	SCREW	4	
A14	K2RC021B0001	ANTENNA PLUG	1	(PP)

A15	RQT6945-Y	OPERATING INSTRUCTIONS	1	(PP), ENGLISH, CANADIAN FRENCH
A15	RQT6949-B	OPERATING INSTRUCTIONS	1	(EB), ENGLISH
A15	RQT6946-D	OPERATING INSTRUCTIONS	1	(EG), GERMANY, ITALIAN, FRENCH
A15	RQT6947-H	OPERATING INSTRUCTIONS	1	(EG), NETHERLANDS, DANISH, SWEDISH
A15	RQT6948-R	OPERATING INSTRUCTIONS	1	(EG), SPANISH, CZECH, POLISH
A16	RQCA1029	SPEAKER CABLE STICKERS	1	
A17	SJP9009	ANTENNA PLUG ADAPTOR	1	K1YZ02000013 (EB)
C12	ECEA1HKA4R7	50V 4.7U	1	
C13	F1H1H104A783	50V 0.1U	1	
C14	F1H1H473A783	50V 0.047U	1	
C15	ECA1CAK100XB	16V 10U	1	
C16,17	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748
C18	ECA1EAM101XB	25V 100U	1	
C20	EEUFC0J821B	6.3V 820U	1	
C21	ECA1CAK100XB	16V 10U	1	
C22,23	F1H1A105A028	10V 1U	2	
C24	EEUFC0J821B	6.3V 820U	1	
C25	F1H1H104A783	50V 0.1U	1	
C26	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C27	F1H1H104A783	50V 0.1U	1	
C28	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C29	ECA1CAK100XB	16V 10U	1	
C30	F1H1H473A783	50V 0.047U	1	
C31	ECA1CAK100XB	16V 10U	1	
C32	F1H1H104A783	50V 0.1U	1	
C33	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C35-37	ECJ1VB1H102K	50V 1000P	3	

C38	ECQE1104KF3	100V 0.1U	1	
C39	ECA1EAK100XB	25V 10U	1	(EB)(EG)
C40	RCE1VKA100BG	35V 10U	1	F2A1V1000011
C43,44	ECA1JAM101XB	63V 100U	2	
C45	ECA1HAM101XB	50V 100U	1	
C46	ECA1EAM102XB	25V 1000U	1	
C47	ECA1HAM101XB	50V 100U	1	
C48	ECA1EAM102XB	25V 1000U	1	
C49	F1H1H104A783	50V 0.1U	1	
C50	ECA1CAK100XB	16V 10U	1	
C51	ECJ1VB1H102K	50V 1000P	1	
C52	ECA1CAK101XB	16V 100U	1	
C53	ECA1EAK100XB	25V 10U	1	
C54	ECA1HAK220XB	50V 22U	1	(EB)(EG)
C55	ECA1EAM682XE	25V 6800U	1	
C56	ECA1CAK470XB	16V 47U	1	
C57	ECA1CAK100XB	16V 10U	1	
C58,59	F1K1E1050001	25V 1U	2	
C61	ECJ1VB1H102K	50V 1000P	1	
C101,02	ECJ1VB1H472K	50V 4700P	2	(PP)
C151	ECA1CAK100XB	16V 10U	1	(EB)(EG)
C152	ECUV1H331KBV	50V 330P	1	ECJ1VB1H331K (EB)(EG)
C153	ECJ1VB1H102K	50V 1000P	1	(EB)(EG)
C154	ECA0JAK470XH	6.3V 47U	1	(EB)(EG)
C155	ECJ1VB1H561K	50V 560P	1	(EB)(EG)
C156,57	ECUV1H470JCV	50V 47P	2	ECJ1VC1H470J (EB)(EG)
C158	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748 (EB)(EG)
C159	ECJ1VB1H102K	50V 1000P	1	(EB)(EG)
C160	ECA0JAK470XH	6.3V 47U	1	(EB)(EG)
C303-06	ECUV1H101JCV	50V 100P	4	ECJ1VC1H101J
C307	F1H1A105A028	10V 1U	1	
C308	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748 (EB)(EG)
C311	ECA0JAK221XH	6.3V 220U	1	
C312	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748

C314	ECA0JAM102XB	6.3V 1000U	1	
C315	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C316	ECA0JAK101XB	6.3V 100U	1	
C317	ECA0JAK470XH	6.3V 47U	1	
C318	ECUV1H470JCV	50V 47P	1	ECJ1VC1H470J
C319	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C320	ECA0JAM102XB	6.3V 1000U	1	
C321	ECA0JAK470XH	6.3V 47U	1	
C322	ECA0JAK101XB	6.3V 100U	1	
C324	ECA0JAM102XB	6.3V 1000U	1	
C325	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C326	ECA0JAK101XB	6.3V 100U	1	
C327	ECA0JAK470XH	6.3V 47U	1	(PP)
C327	ECEA1AKN470B	10V 47U	1	(EB)(EG)
C328	ECA0JAK331XB	6.3V 330U	1	
C329	ECA0JAK470XH	6.3V 47U	1	(PP)
C329	ECEA1AKN470B	10V 47U	1	(EB)(EG)
C331	ECA0JAK331XB	6.3V 330U	1	
C333,34	F1H1H104A783	50V 0.1U	2	
C336	ECA0JAK101XB	6.3V 100U	1	(EB)(EG)
C337	ECA0JAM102XB	6.3V 1000U	1	(EB)(EG)
C338	ECA1CAK220XB	16V 22U	1	(EB)(EG)
C339	F1H1H104A783	50V 0.1U	1	(EB)(EG)
C340	ECA1HAK010XI	50V 1U	1	(EB)(EG)
C344	ECA1HAK010XI	50V 1U	1	(EB)(EG)
C345	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748 (EB)(EG)
C346	ECA1HAK010XI	50V 1U	1	(EB)(EG)
C347	F1H1H104A783	50V 0.1U	1	(EB)(EG)
C348,49	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748 (EB)(EG)
C350	ECA1HAK010XI	50V 1U	1	(EB)(EG)
C351	ECUV1H470JCV	50V 47P	1	ECJ1VC1H470J
C352,53	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748 (EB)(EG)
C354	F1H0J2250003	6.3V 2.2U	1	
C355,56	F1H1A105A028	10V 1U	2	(EB)(EG)

C357	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748 (EB)(EG)
C359	ECA0JAK101XB	6.3V 100U	1	(EB)(EG)
C362	F1H0J2250003	6.3V 2.2U	1	(EB)(EG)
C415,16	ECUV1H471KBV	50V 470P	2	F1H1H471A013
C419,20	F1H1H104A783	50V 0.1U	2	
C421	ECUV1H471KBV	50V 470P	1	F1H1H471A013
C422-24	ECUV1H470JCV	50V 47P	3	ECJ1VC1H470J
C425-32	ECA1CAK100XB	16V 10U	8	
C433,34	ECUV1H470JCV	50V 47P	2	ECJ1VC1H470J
C435,36	ECUV1H471KBV	50V 470P	2	F1H1H471A013
C437	ECJ1VB1H102K	50V 1000P	1	
C439,40	ECUV1H471KBV	50V 470P	2	F1H1H471A013
C441	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C449-52	F1H1H104A783	50V 0.1U	4	
C453-55	ECUV1H471KBV	50V 470P	3	F1H1H471A013
C501-08	ECA1HAK010XI	50V 1U	8	
C511	ECEA1HKA4R7	50V 4.7U	1	
C512	F1H1H104A783	50V 0.1U	1	
C513	ECEA1HKA4R7	50V 4.7U	1	
C514	ECA0JAK101XB	6.3V 100U	1	
C515	F1H1A105A028	10V 1U	1	
C516	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C517	ECJ1VC1H050C	50V 5P	1	
C518	ECJ1VC1H120J	50V 12P	1	
C519,20	F1H1A105A028	10V 1U	2	
C521,22	ECJ1VB1H222K	50V 2200P	2	
C523	EEAFC0J101B	6.3V 100U	1	
C524	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C525,26	F1H1A105A028	10V 1U	2	
C527	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C528	ECA0JAK470XH	6.3V 47U	1	
C529	EEAFC0J101B	6.3V 100U	1	
C530	ECA0JAK470XH	6.3V 47U	1	
C531	ECA0JAK101XB	6.3V 100U	1	
C532,33	F1H1A105A028	10V 1U	2	
C535,36	ECJ1VB1H222K	50V 2200P	2	

C537-39	F1H1A105A028	10V 1U	3	
C542	ECJ1VB1E223K	25V 0.022U	1	
C543-45	F1H1A105A028	10V 1U	3	
C546	ECA1AAK221XH	10V 220U	1	
C547	ECJ1VB1E223K	25V 0.022U	1	
C548	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C551,52	F1H1A105A028	10V 1U	2	
C555,56	ECUV1H101JCV	50V 100P	2	ECJ1VC1H101J
C557,58	ECA1CAK100XB	16V 10U	2	
C559,60	ECUVNA154KBV	10V 0.15U	2	F1H1A154A028
C561,62	RCE1HKAR47BG	50V 0.47U	2	F2A1HR47A015
C565	F1H1A105A028	10V 1U	1	
C566	ECA1CAK100XB	16V 10U	1	
C569	F1H1H123A219	50V 0.012U	1	
C571,72	ECUV1H221KBV	50V 220P	2	ECJ1VB1H221K
C573,74	ECA1CAK100XB	16V 10U	2	
C575	ECQV1H154JM3	50V 0.15U	1	
C576	ECA1CAK100XB	16V 10U	1	
C577	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C578,79	ECUV1H470JCV	50V 47P	2	ECJ1VC1H470J
C591	F1H1H104A783	50V 0.1U	1	
C593	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C594	F1H1H104A783	50V 0.1U	1	
C595	ECA1CAK220XB	16V 22U	1	
C601,02	ECA1HAK2R2XB	50V 2.2U	2	
C605,06	ECEA1HKA4R7	50V 4.7U	2	
C607,08	ECUV1H101JCV	50V 100P	2	ECJ1VC1H101J
C609,10	ECUV1H680KCV	50V 68P	2	ECJ1VC1H680K
C611,12	F1H1H473A783	50V 0.047U	2	
C615,16	ECA1CAK100XB	16V 10U	2	
C617	ECA0JAK101XB	6.3V 100U	1	
C625	ECA1CAK100XB	16V 10U	1	
C626	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C627,28	ECA1CAK100XB	16V 10U	2	
C631,32	ECJ1VB1H102K	50V 1000P	2	
C635,36	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748
C639,40	ECA1CAK100XB	16V 10U	2	

C641-44	ECUV1C563KBV	16V 0.056U	4	ECJ1VB1C563K
C645,46	ECUV1H101JCV	50V 100P	2	ECJ1VC1H101J
C647,48	ECA1HAK010XI	50V 1U	2	
C655,56	ECA1HAK010XI	50V 1U	2	
C661	ECUV1H471KBV	50V 470P	1	F1H1H471A013
C662	ECA1CAK220XB	16V 22U	1	
C663	F1H1H473A783	50V 0.047U	1	
C664	ECJ1VB1H562K	50V 5600P	1	
C665	ECUVNA154KBV	10V 0.15U	1	F1H1A154A028
C666	ECJ1VB1C393K	16V 0.039U	1	
C667	F1H1H104A783	50V 0.1U	1	
C668	RCE1AKA330BG	10V 33U	1	F2A1A330A011
C669,70	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748
C673,74	ECUV1H330JCV	50V 33P	2	ECJ1VC1H330J
C675,76	ECUV1H101JCV	50V 100P	2	ECJ1VC1H101J
C677,78	ECA1HAK010XI	50V 1U	2	
C679,80	ECA1CAK100XB	16V 10U	2	
C683,84	ECUV1H101JCV	50V 100P	2	ECJ1VC1H101J
C685	ECUV1H470JCV	50V 47P	1	ECJ1VC1H470J
C686	ECJ1VB1H102K	50V 1000P	1	
C687	ECA1HAK010XI	50V 1U	1	
C688,89	ECA1CAK100XB	16V 10U	2	
C690	ECA1CAK220XB	16V 22U	1	
C691	ECA1CAK100XB	16V 10U	1	
C693,94	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748
C701,02	RCE1HKA3R3BG	50V 3.3U	2	F2A1H3R3A015
C703,04	F1H1H104A783	50V 0.1U	2	
C728	ECEA1HKA4R7	50V 4.7U	1	
C733,34	F1H1H104A783	50V 0.1U	2	
C802	ECA1HAK010XI	50V 1U	1	
C803	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C810	F1H1H104A783	50V 0.1U	1	
C811	ECA0JAK101XB	6.3V 100U	1	
C812	ECJ1VB1H102K	50V 1000P	1	
C813	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C814	ECJ1VB1H102K	50V 1000P	1	
C815	ECA1AAM102XB	10V 1000U	1	

C850	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C860	ECJ1VB1H102K	50V 1000P	1	
C890	ECJ1VB1H561K	50V 560P	1	
C891	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C892	ECA1CAK220XB	16V 22U	1	
C901	EEAFC0J101B	6.3V 100U	1	
C902	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C903	ECUV1H121JCV	50V 120P	1	F1H1H121A004
C904	ECST1AY475R	10V 4.7U	1	
C905,06	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748
C907-10	ECEA1EKS220B	25V 22U	4	
C911	F1H1H104A783	50V 0.1U	1	
C912-14	ECUV1H560KCV	50V 56P	3	ECJ1VC1H560K
C915,16	ECBT1C103KS3	16V 0.01U	2	
C917,18	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C2001,02	EEE0JA101SP	6.3V 100U	2	
C2003-18	ECJ1ZF1C104Z	16V 0.1U	16	
C2021	EEE0JA101SP	6.3V 100U	1	
C2022-25	ECJ1ZF1C104Z	16V 0.1U	4	
C2031,32	ECJ1VB1C104K	16V 0.1U	2	
C2034	ECJ1VB1C393K	16V 0.039U	1	
C2035	ECJ1VB1H822K	50V 8200P	1	
C2036	ECJ1VB1C104K	16V 0.1U	1	
C2038	ECJ1VB1C104K	16V 0.1U	1	
C2039	ECJ1VB1H103K	50V 0.01U	1	
C2040	ECJ1VC1H102J	50V 1000P	1	
C2041,42	ECJ1VC1H331J	50V 330P	2	
C2043	ECJ1VC1H101J	50V 100P	1	
C2044	ECJ1VC1H391J	50V 390P	1	
C2045,46	ECJ1VC1H102J	50V 1000P	2	
C2047	ECJ1VB1H103K	50V 0.01U	1	
C2048	ECUV1C153KBV	16V 0.015U	1	ECJ1VB1C153K
C2050	ECJ1VB1C333K	16V 0.033U	1	
C2051	ECUV1H680JCV	50V 68P	1	ECJ1VC1H680J
C2052,53	ECJ1ZF1C104Z	16V 0.1U	2	
C2054	ECUX1H681JCV	50V 680P	1	
C2055	ECJ1VB1H682K	50V 6800P	1	

C2056,57	ECJ1VB1H272K	50V 2700P	2	
C2058	ECJ1VC1H102J	50V 1000P	1	
C2059	ECUV1H821JCV	50V 820P	1	ECJ1VC1H821J
C2060	ECJ1VC1H102J	50V 1000P	1	
C2061,62	ECJ1VC1H331J	50V 330P	2	
C2063-65	ECJ1VC1H102J	50V 1000P	3	
C2066,67	ECJ1VB1H472K	50V 4700P	2	
C2073	ECJ1ZF1C104Z	16V 0.1U	1	
C2101,02	ECJ1ZF1C104Z	16V 0.1U	2	
C2501	ECEA1CKS101	16V 100U	1	
C2502-04	ECJ1VB1C104K	16V 0.1U	3	
C2511-14	ECJ1VB1C104K	16V 0.1U	4	
C2521	ECEA1CKS101	16V 100U	1	
C2522	ECEA1CKS220	16V 22U	1	
C2523	EEAFC0J101B	6.3V 100U	1	
C2524-29	ECJ1VB1C104K	16V 0.1U	6	
C2530	EEAFC0J101B	6.3V 100U	1	
C3001,02	F2G0J331A015	6.3V 330U	2	
C3003-18	ECJ1ZF1C104Z	16V 0.1U	16	
C3019	F1H0J1050013	6.3V 1U	1	
C3020	ECJ1ZF1C104Z	16V 0.1U	1	
C3021	F1H0J1050013	6.3V 1U	1	
C3022-36	ECJ1ZF1C104Z	16V 0.1U	15	
C3037	F2G0J331A015	6.3V 330U	1	
C3038,39	ECJ1ZF1C104Z	16V 0.1U	2	
C3051	ECJ1VC1H220J	50V 22P	1	
C3061-74	ECJ1ZF1C104Z	16V 0.1U	14	
C3110	EEE0JA101SP	6.3V 100U	1	
C3111	ECJ1ZF1C104Z	16V 0.1U	1	
C3116	ECJ1ZF1C104Z	16V 0.1U	1	
C3121	ECJ1ZF1C104Z	16V 0.1U	1	
C3213,14	ECJ1VC1H120J	50V 12P	2	
C3215	ECJ1VB1H103K	50V 0.01U	1	
C3217,18	ECJ1VC1H120J	50V 12P	2	
C3219	ECJ1VB1H103K	50V 0.01U	1	
C3222,23	ECJ1VC1H150J	50V 15P	2	
C3224	ECJ1VB1H103K	50V 0.01U	1	

C4207-10	ECJ1ZF1C104Z	16V 0.1U	4	
C4211	F3F1A1060002	10V 10U	1	
C4215	ECJ1ZF1C104Z	16V 0.1U	1	
C4216	F2G0J101A015	6.3V 100U	1	
C4217	ECJ1ZF1C104Z	16V 0.1U	1	
C4219,20	F3F1A1060002	10V 10U	2	
C4222,23	F2G0J331A015	6.3V 330U	2	
C4234-37	ECJ1ZF1C104Z	16V 0.1U	4	
C5101,02	ECJ1VB1C104K	16V 0.1U	2	
C5103	ECST1AY106R	10V 10U	1	
C5110,11	ECEA0JKS470	6.3V 47U	2	
C5115,16	ECEA0JKS470	6.3V 47U	2	
C5117	ECJ1VB1C104K	16V 0.1U	1	
C5201,02	EEE1CA100SR	16V 10U	2	
C5203-05	ECJ1ZF1C104Z	16V 0.1U	3	
C5221	ECJ1ZF1C104Z	16V 0.1U	1	
C5232-34	ECJ1ZF1C104Z	16V 0.1U	3	
C5235,36	ECJ1VB1C104K	16V 0.1U	2	
C5254	ECUV1H391KBV	50V 390P	1	ECJ1VB1H391K
C5256	ECJ1VB1H222K	50V 2200P	1	
C5262	ECJ1VC1H181J	50V 180P	1	
C5264	ECJ1VB1C183K	16V 0.018U	1	
C5271	ECJ1VB1H102K	50V 1000P	1	
C5272	ECJ1VB1A224K	10V 0.22U	1	
C5273	ECJ1VB1H182K	50V 1800P	1	
C5274	ECJ1VB1C104K	16V 0.1U	1	
C5282	ECJ1VB1H103K	50V 0.01U	1	
C5283	ECJ1VC1H561J	50V 560P	1	
C5290	ECJ1VB1H102K	50V 1000P	1	
C5291	ECJ1VB1H272K	50V 2700P	1	
C5292	ECJ1VC1H101J	50V 100P	1	
C5299	ECJ1VC1H331J	50V 330P	1	
C6201	EEE0JA330WR	6.3V 33U	1	
C6202-06	ECJ1ZF1C104Z	16V 0.1U	5	
C6211	ECJ1VC1H101J	50V 100P	1	
C6215	ECJ1VB1C104K	16V 0.1U	1	
C6221-23	ECJ1ZF1C104Z	16V 0.1U	3	

C6251-53	F3F1A1060002	10V 10U	3	
C6254,55	ECJ1ZF1C104Z	16V 0.1U	2	
C6256	ECJ1VB1C104K	16V 0.1U	1	
C6257	EEE0JA101SP	6.3V 100U	1	
C6301,02	ECJ1ZF1C104Z	16V 0.1U	2	
C6561	EEE0GA470SR	4V 47U	1	
C6563	EEE0GA470SR	4V 47U	1	
C6564	ECJ1ZF1C104Z	16V 0.1U	1	
C6565	ECJ1VC1H150J	50V 15P	1	
C6566	ECJ1ZF1C104Z	16V 0.1U	1	
C6567	ECJ1VC1H150J	50V 15P	1	
C6568	ECJ1ZF1C104Z	16V 0.1U	1	
CN301	RJU100W07	CONNECTOR(7P)	1	K1KB07A00018
CN302,03	RJU100W11	CONNECTOR(11P)	2	K1KB11A00020
CN401	K1KA26A00089	CONNECTOR(26P)	1	
CN402	K1KA22A00044	CONNECTOR(22P)	1	
CN403	K1MN07A00032	CONNECTOR(7P)	1	
CN901	RJS1A9414	CONNECTOR(14P)	1	K1MN14A00049
CN902	RJS1A6603T1	CONNECTOR(3P)	1	K1MP03A00010
CN904	RJU100W11	CONNECTOR(11P)	1	K1KB11A00020
CN905	RJS4T6ZA	CONNECTOR(4P)	1	K1MP04B00006
CN906	RJS4T7ZA	CONNECTOR(4P)	1	K1MP04B00005
CN911	VJS4333B014W	CONNECTOR(14P)	1	K1MN14B00058
CN2501	RJS1A5208	CONNECTOR(8P)	1	K1MP08A00006
CP101	RJT100W11	CONNECTOR(11P)	1	K1KA11A00093
CP301	RJT100W07	CONNECTOR(7P)	1	K1KA07A00082
CP302,03	RJT100W11	CONNECTOR(11P)	2	K1KA11A00093
CP901	RJT100W11	CONNECTOR(11P)	1	K1KA11A00093
D11-14	1N5402BF	DIODE	4	
D16	MA143TX	DIODE	1	MA3J14300L
D17,18	B0AAMM000009	DIODE	2	(EB)(EG)
D19	MAZ80820HL	DIODE	1	
D20	MA143TX	DIODE	1	MA3J14300L
D22	SFPB-72V	DIODE	1	B0JCPC000004

D23	MA7075A	DIODE	1	
D24	SFPB-72V	DIODE	1	B0JCPC000004
D25	MA7075A	DIODE	1	
D26	MA2J11100L	DIODE	1	
D29	MA2J11100L	DIODE	1	
D30	MA143TX	DIODE	1	MA3J14300L
D32	MA2J11100L	DIODE	1	
D45	MA8075MTX	DIODE	1	MAZ80750ML
D51	MA8120M	DIODE	1	MAZ81200M (EB)(EG)
D71	MAZ82700ML	DIODE	1	
D72-77	B0AAMM000009	DIODE	6	
D78	MA143TX	DIODE	1	MA3J14300L
D79	MA2J11100L	DIODE	1	
D151	MA8051M	DIODE	1	MAZ80510M (EB)(EG)
D301	MA2J11100L	DIODE	1	(EB)(EG)
D401,02	MA2J11100L	DIODE	2	
D591	MA8051M	DIODE	1	MAZ80510M
D617	MA8043M	DIODE	1	MAZ80430M
D618,19	MA2J11100L	DIODE	2	
D645,46	MA2J11100L	DIODE	2	
D653,54	MA2J11100L	DIODE	2	
D718	B0AAMM000009	DIODE	1	
D720,21	MA2J11100L	DIODE	2	
D723	MA2J11100L	DIODE	1	
D729	MA2J11100L	DIODE	1	
D731,32	B0AAMM000009	DIODE	2	
D801,02	1SS380TE-17	DIODE	2	
D803-05	MA2J11100L	DIODE	3	
D902	MA8043M	DIODE	1	MAZ80430M
D903	MA2J11100L	DIODE	1	
D2521	B0ECKM000003	DIODE	1	
D5131	MA2J72800L	DIODE	1	
D6215	MA2J72800L	DIODE	1	
FL901	A2BB00000117	DISPLAY	1	
FL4201	F1H0J1050018	FILTER	1	

FL6251	F1H0J1050018	FILTER	1	
FL6253, 54	F1H0J1050018	FILTER	2	
FL6255	VLF1491S104T	FILTER	1	F1J1E1040022
FP71	K5G202AA0002	FUSE PROTECTOR	1	⚠
FP2501	K1MN15A00037	CONNECTOR(15P)	1	
FP2502	RJS2A4207	CONNECTOR(7P)	1	K1MN07B00009
FP5101	K1MN30B00031	CONNECTOR(30P)	1	
FP5102	K1MN50B00021	CONNECTOR(50P)	1	
FP5201	K1MN50A00005	CONNECTOR(50P)	1	
IC11	C0DBAJG00002	IC	1	
IC12	C0DAAHG00011	IC	1	
IC13	C0CBADE00034	IC	1	
IC42	C0CBAHE00002	IC	1	
IC151	C1BB00000527	IC	1	(EB)(EG)
IC301	C9ZB00000377	IC	1	
IC302	C1AB00001731	IC	1	(EB)(EG)
IC303	C9ZB00000432	IC	1	(EB)(EG)
IC304	C1AB00001486	IC	1	(EB)(EG)
IC400	C0JZAS000004	IC	1	
IC401	NJM4558MTE1	IC	1	C0ABBB000109
IC402	C0JBAR000292	IC	1	
IC501	C2HBZC000013	IC	1	
IC502	M62444FPE1	IC	1	C1BB00000386
IC601	NJM4580D	IC	1	C0AABB000085
IC602	M62456FPE1	IC	1	C1BB00000389
IC603	C0ABCB000052	IC	1	
IC702,03	C0CBADE00034	IC	2	
IC801	C2CBJH000054	IC	1	
IC802	C3EBCG000031	IC	1	
IC901	C0HBB0000033	IC	1	
IC902	TC74HC00AFT1	IC	1	C0JBAC000135
IC903,04	GP2S40J	IC	2	B3NAB0000020
IC2001	MN103S26EGA	IC	1	
IC2101	C0JBAS000116	IC	1	

IC2501	C0GBF0000004	IC	1	
IC2521	C0GBG0000033	IC	1	
IC3001	MN6775511	IC	1	
IC3061, 62	C3ABPG000121	IC	2	
IC4211	C0FBBK000036	IC	1	
IC5201	AN22030A-VT	IC	1	
IC6201	MN102H60GFD	IC	1	
IC6211	PST596JNR	IC	1	C0EBE0000070
IC6221	C3EBGC000033	IC	1	
IC6222, 23	C0JBAA000001	IC	2	
IC6251	C0DBEZG00011	IC	1	
IC6252	C0DBFFG00004	IC	1	
IC6253	C0DBCGE00002	IC	1	
IC6301	RFKFMA66K320	IC	1	
IC6561	C1DB00000582	IC	1	
JK301	K2HA408B0052	JK,VCR IN/AUX,TV IN	1	
JK304	K2HA303B0030	JK,COMPONENT VIDEO OUT	1	
JK305	K1U208B00003	JK,VIDEO OUT/S1 VIDEO OUT	1	
JK306	K1FB121B0004	JK,AV CONNECTOR	1	(EB)(EG)
JK700	K1FB125B0095	JK,SYSTEM CONNECTOR	1	
JK901	RJJ37TK01-2C	JK,HEADPHONE	1	K2HC103B0049
K2003	ERJ3GEY0R00Z	CHIP JUMPER	1	
K2501,02	ERJ3GEY0R00V	1/16W 0	2	
K3002,03	ERJ3GEY0R00Z	CHIP JUMPER	2	
K3101	ERJ3GEY0R00Z	CHIP JUMPER	1	
K3106	ERJ3GEY0R00Z	CHIP JUMPER	1	
K4202-05	ERJ3GEY0R00Z	CHIP JUMPER	4	
K6301	ERJ3GEY0R00Z	CHIP JUMPER	1	
K6303	ERJ3GEY0R00Z	CHIP JUMPER	1	
L13	G0ZZ00001930	COIL	1	
L14	G0A200D00002	COIL	1	
L15	G0ZZ00001930	COIL	1	

L16,17	G0A200D00002	COIL	2	
L18,19	BL02RN2R65T2	COIL	2	J0JKB0000022
L41	RLQB100JTD-D	COIL	1	G0C100JA0030 (EB)(EG)
L151-53	J0JBC0000041	COIL	3	(EB)(EG)
L303,04	ELJFCR68KF	COIL	2	
L307,08	G0BYYYY00016	COIL	2	
L521	J0JBC0000041	COIL	1	
L540	G0A200D00002	COIL	1	
L541	J0JBC0000041	COIL	1	
L545	J0JBC0000041	COIL	1	
L595	RLQB100JTD-D	COIL	1	G0C100JA0030
L596	G0A200D00002	COIL	1	
L801,02	J0JBC0000041	COIL	2	
L901	G0C101JA0019	COIL	1	
L2001,02	G1C100K00020	COIL	2	
L2021	G1C100K00020	COIL	1	
L3001	G1C100K00020	COIL	1	
L3091	G1C100K00020	COIL	1	
L3212,13	VLQ0808J4R7	COIL	2	G1C4R7J00008
L3216,17	VLQ0808J4R7	COIL	2	G1C4R7J00008
L3221,22	VLQ0808J4R7	COIL	2	G1C4R7J00008
L4211	G1C220KA0038	COIL	1	
L5110	G1C100K00020	COIL	1	
L5201,02	G1C100K00020	COIL	2	
L6561,62	G1C220KA0038	COIL	2	
LB2501-03	J0JHC0000045	COIL	3	
LB3001,02	J0JHC0000045	COIL	2	
LB3201-03	ERJ3GEYJ101	1/16W 100	3	D0GB101JA002
LB3205-09	J0JBC0000015	COIL	5	
LB4200	J0JBC0000015	COIL	1	
LB4201	VLP0155-T	COIL	1	J0JCC0000119
LB4207-12	VLP0155-T	COIL	6	J0JCC0000119

LB4214, 15	ERJ3GEY0R00Z	1/16W 0	2	
LB4218	ERJ3GEY0R00Z	1/16W 0	1	
LB5101	J0JHC0000045	COIL	1	
LB5102, 03	J0JBC0000015	COIL	2	
LB5202, 03	J0JHC0000045	COIL	2	
LB5205, 06	J0JBC0000015	COIL	2	
LB5208-10	J0JBC0000015	COIL	3	
LB5213	J0JBC0000015	COIL	1	
LB5217-19	J0JBC0000015	COIL	3	
LB5221-24	VLP0155-T	COIL	4	J0JCC0000119
LB5225	J0JBC0000015	COIL	1	
LB5226	VLP0155-T	COIL	1	J0JCC0000119
LB5227	J0JBC0000015	COIL	1	
LB5228-31	VLP0155-T	COIL	4	J0JCC0000119
LB5232	J0JBC0000015	COIL	1	
LB5233	VLP0155-T	COIL	1	J0JCC0000119
LB5235-38	VLP0155-T	COIL	4	J0JCC0000119
LB5239	J0JBC0000015	COIL	1	
LB6201	J0JBC0000015	COIL	1	
LB6202	VLP0155-T	COIL	1	J0JCC0000119
LB6221	J0JBC0000015	COIL	1	
LB6561	J0JBC0000015	COIL	1	
LB6562, 63	VLP0155-T	COIL	2	J0JCC0000119
LB6564	ERJ3GEYJ470V	1/16W 47	1	
LB6565	J0JCC0000077	COIL	1	
LB6566	VLP0155-T	COIL	1	J0JCC0000119
LB6567	J0JBC0000015	COIL	1	
P1	SFYF09A15Z	PROTECTION BAG	1	
P2	RPF0139-1	PROTECTION BAG (ACCESS.)	1	

P4	RPF0358	PROTECTION SHEET 1	1	
P5	RPG6506	PACKING CASE	1	(PP)
P5	RPG6504	PACKING CASE	1	(EB)(EG)
P6	RPH0242	PROTECTION SHEET 2	1	
P7	RPQ1434-1	ACCESSORY BOX	1	
P8	RPN1575	PAD	1	
P9	RPQ1536	SPECER 2	1	
P10	RPQ1544	SHEET	1	
PCB1	REP3479L-N	DVD MODULE PCB ASS´Y	1	[RTL](PP)
PCB1	REP3479M-N	DVD MODULE PCB ASS´Y	1	[RTL] (EB)(EG)
PCB2	REP3448B-M	MAIN PCB ASS´Y	1	[RTL](PP)
PCB2	REP3448C-M	MAIN PCB ASS´Y	1	[RTL] (EB)(EG)
PCB3	REP3449AB-S	OPERATION PCB ASS´Y	1	[RTL]
PCB4	REP3449AD-S	MOTOR PCB ASS´Y	1	[RTL]
PCB5	REP3449AE-S	CONNECT PCB ASS´Y	1	[RTL]
PCB6	REP3449AF-S	SENSOR PCB1 ASS´Y	1	[RTL]
PCB7	REP3449AG-S	SENSOR PCB2 ASS´Y	1	[RTL]
PCB8	REP3449BA-S	FL PCB ASS´Y	1	[RTL]
PCB9	REP3449BC-S	DETECTOR SW PCB ASS´Y	1	[RTL]
PCB10	REP3449BH-S	SENSOR PCB3 ASS´Y	1	[RTL]
PS2001	VJS4047C010	CONNECTOR(10P)	1	K1MN10A00030
PS3201	K1KB22A00025	CONNECTOR(22P)	1	
PS4201	K1KB26A00027	CONNECTOR(26P)	1	
PS6201	VJS4047C010	CONNECTOR(10P)	1	K1MN10A00030
Q11	2SA20570P	TRANSISTOR	1	
Q12	2SD1819A0L	TRANSISTOR	1	
Q14,15	UN5214TX	TRANSISTOR	2	UNR521400L
Q16	2SB1417PQTA	TRANSISTOR	1	2SB14170JA
Q17	2SD1819A0L	TRANSISTOR	1	
Q18	2SB621A-R	TRANSISTOR	1	2SB0621AH

Q19	2SD1819A0L	TRANSISTOR	1	
Q20	2SB1218A	TRANSISTOR	1	
Q41	2SD2374PQAU	TRANSISTOR	1	2SD23740J1AU
Q42	2SB621A-R	TRANSISTOR	1	2SB0621AH
Q43	2SB1218A	TRANSISTOR	1	
Q71	2SB621A-R	TRANSISTOR	1	2SB0621AH
Q304	UN5111TX	TRANSISTOR	1	UNR511100L (EB)(EG)
Q305	UN5214TX	TRANSISTOR	1	UNR521400L (EB)(EG)
Q307	UN5214TX	TRANSISTOR	1	UNR521400L (EB)(EG)
Q308	UN5213TX	TRANSISTOR	1	UNR521300L (EB)(EG)
Q309,10	UN5214TX	TRANSISTOR	2	UNR521400L
Q311-13	2SB1218A	TRANSISTOR	3	(EB)(EG)
Q314	2SD1819A0L	TRANSISTOR	1	(EB)(EG)
Q315	2SB1218A	TRANSISTOR	1	(EB)(EG)
Q316,17	UN5214TX	TRANSISTOR	2	UNR521400L (EB)(EG)
Q401,02	UN5214TX	TRANSISTOR	2	UNR521400L
Q601,02	B1GFGCAA0001	TRANSISTOR	2	
Q603,04	UN5115TX	TRANSISTOR	2	UNR511500L
Q605,06	B1ABGC000001	TRANSISTOR	2	
Q607,08	UN5115TX	TRANSISTOR	2	UNR511500L
Q610	B1GFGCAA0001	TRANSISTOR	1	
Q611,12	B1ABGC000001	TRANSISTOR	2	
Q690	B1GFGCAA0001	TRANSISTOR	1	
Q691	UN5115TX	TRANSISTOR	1	UNR511500L
Q701,02	UN5115TX	TRANSISTOR	2	UNR511500L
Q703	2SB1218A	TRANSISTOR	1	
Q704	UNR521100L	TRANSISTOR	1	
Q731	UN5111TX	TRANSISTOR	1	UNR511100L
Q801	UN5214TX	TRANSISTOR	1	UNR521400L
Q901	UN5214TX	TRANSISTOR	1	UNR521400L
Q2001	2SD1819A0L	TRANSISTOR	1	
Q3111	2SB1218ARL	TRANSISTOR	1	
Q3116	2SB1218ARL	TRANSISTOR	1	
Q3121	2SB1218ARL	TRANSISTOR	1	

Q3212	2SB1218ARL	TRANSISTOR	1	
Q3217	2SB1218ARL	TRANSISTOR	1	
Q3222	2SB1218ARL	TRANSISTOR	1	
Q5111	2SB1115-T	TRANSISTOR	1	B1BDBF000004
Q5115	2SB1115-T	TRANSISTOR	1	B1BDBF000004
Q5271	UNR521100L	TRANSISTOR	1	
Q6215	UN5212TX	TRANSISTOR	1	UNR521200L
QR5221	UN2121	TRANSISTOR	1	
R11	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R12	ERJ3GEYJ102V	1/16W 1K	1	
R13	ERJ3GEYJ331V	1/16W 330	1	
R15	ERDS1FJ102	1/2W 1K	1	
R16	ERDS1FJ681	1/2W 680	1	
R17	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R18-21	ERJ3GEYJ1R0V	1/16W 1	4	
R22,23	ERJ3GEYJ102V	1/16W 1K	2	
R24	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R25,26	ERJ3GEYJ102V	1/16W 1K	2	
R27	ERJ3GEYJ182V	1/16W 1.8K	1	
R28	ERJ3GEYJ472V	1/16W 4.7K	1	
R29	ERJ3GEYJ271V	1/16W 270	1	
R30	ERJ3GEYJ334V	1/16W 330K	1	
R31	ERJ3GEYJ681V	1/16W 680	1	D0GB681JA002
R32	ERJ3GEYJ472V	1/16W 4.7K	1	
R33	ERJ3GEYJ154V	1/16W 150K	1	
R34	ERJ3GEYJ681V	1/16W 680	1	D0GB681JA002
R35	ERJ3GEYJ271V	1/16W 270	1	
R41	ERDS1FJ2R2	1/2W 2.2	1	
R42	ERJ3GEYJ392V	1/16W 3.9K	1	
R43	ERJ3GEYJ151V	1/16W 150	1	
R44	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R45	ERJ3GEYJ272V	1/16W 2.7K	1	
R47	ERDS1FJ2R2	1/2W 2.2	1	
R48	ERJ3GEYJ472V	1/16W 4.7K	1	
R49	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002

R50	ERJ3GEYJ152V	1/16W 1.5K	1	(EB)(EG)
R71	ERJ3GEYJ472V	1/16W 4.7K	1	
R72	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R73	ERDS1FJ561	1/2W 560	1	
R74	ERJ3GEYJ154V	1/16W 150K	1	
R101,02	ERJ3GEYJ102V	1/16W 1K	2	
R103,04	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R151	ERJ3GEYJ221V	1/16W 220	1	(EB)(EG)
R152,53	ERJ3GEYJ102V	1/16W 1K	2	(EB)(EG)
R156	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002 (EB)(EG)
R157-59	ERJ3GEYJ102V	1/16W 1K	3	(EB)(EG)
R305,06	ERJ3GEYJ822V	1/16W 8.2K	2	D0GB822JA002
R307,08	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R309,10	ERJ3GEYJ822V	1/16W 8.2K	2	D0GB822JA002
R311,12	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R315	ERJ3RBD221	1/16W 220	1	(EB)(EG)
R316	ERJ3RBD182V	1/16W 1.8K	1	(EB)(EG)
R317	ERJ3RBD221	1/16W 220	1	(EB)(EG)
R318	ERJ3RBD182V	1/16W 1.8K	1	(EB)(EG)
R319	ERJ3RBD102V	1/16W 1K	1	(EB)(EG)
R320	ERJ3RBD132V	1/16W 1.3K	1	(EB)(EG)
R321	ERJ3GEYJ472V	1/16W 4.7K	1	(EB)(EG)
R323	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R324	ERJ3EKF75R0	1/16W 75	1	(EB)(EG)
R325,26	ERJ3GEY0R00V	1/16W 0	2	(PP)
R329,30	ERJ3GEY0R00V	1/16W 0	2	(EB)(EG)
R334	ERJ3GEYJ1R0V	1/16W 1	1	
R335	ERJ3EKF75R0	1/16W 75	1	
R336	ERJ3GEYJ1R0V	1/16W 1	1	
R337,38	ERJ3EKF75R0	1/16W 75	2	
R339,40	ERJ3GEYJ1R0V	1/16W 1	2	
R341-43	ERJ3EKF75R0	1/16W 75	3	
R349-51	ERJ3EKF75R0	1/16W 75	3	(EB)(EG)
R352	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002 (EB)(EG)
R353	ERJ3GEY0R00V	1/16W 0	1	(EB)(EG)
R354-57	RLBV252AV-Y	COIL	4	J0JBC0000019

R358,59	ERJ3GEYJ102V	1/16W 1K	2	(EB)(EG)
R360	ERJ3GEY0R00V	1/16W 0	1	(PP)
R361	ERJ3GEYJ472V	1/16W 4.7K	1	(EB)(EG)
R362	ERJ3GEY0R00V	1/16W 0	1	
R374	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002 (EB)(EG)
R375	ERJ3GEYJ183V	1/16W 18K	1	D0GB183JA002 (EB)(EG)
R376	ERJ3GEYJ471V	1/16W 470	1	(EB)(EG)
R377	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002 (EB)(EG)
R378	ERJ3EKF75R0	1/16W 75	1	(EB)(EG)
R379	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002 (EB)(EG)
R380	ERJ3EKF75R0	1/16W 75	1	(EB)(EG)
R381	ERJ3GEYJ222V	1/16W 2.2K	1	
R385,86	ERJ3GEYJ102V	1/16W 1K	2	(EB)(EG)
R410	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R411,12	ERJ3GEYD153V	1/16W 15K	2	D0HB153ZA002
R415,16	ERJ3GEYJ682V	1/16W 6.8K	2	D0GB682JA002
R421	ERJ3GEYJ332V	1/16W 3.3K	1	D0GB332JA002
R422	ERJ3GEYJ224V	1/16W 220K	1	D0GB224JA002
R427,28	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R431,32	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R433,34	ERJ3GEYJ104	1/16W 100K	2	
R435,36	ERJ3GEYJ123V	1/16W 12K	2	
R437,38	ERJ3GEYJ102V	1/16W 1K	2	
R439,40	ERJ3GEYJ393V	1/16W 39K	2	D0GB393JA002
R451,52	ERJ3GEYJ104	1/16W 100K	2	
R454	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R455-57	ERJ3GEYJ102V	1/16W 1K	3	
R461,62	ERJ3GEYJ272V	1/16W 2.7K	2	
R463,64	ERJ3GEYJ222V	1/16W 2.2K	2	
R465-67	ERJ3GEYJ682V	1/16W 6.8K	3	D0GB682JA002
R468	ERJ3GEYJ222V	1/16W 2.2K	1	
R473,74	ERJ3GEYJ104	1/16W 100K	2	
R475	ERJ3GEY0R00V	1/16W 0	1	
R501-08	ERJ3GEYJ102V	1/16W 1K	8	

R509	ERJ3GEYJ104	1/16W 100K	1	
R510-13	RLBV252AV-Y	COIL	4	J0JBC0000019
R516	ERJ3GEYJ470V	1/16W 47	1	
R517	ERJ3GEYJ105V	1/16W 1M	1	
R518	ERJ3GEYJ221V	1/16W 220	1	
R521,22	ERJ3GEYJ271V	1/16W 270	2	
R537,38	ERJ3GEYJ271V	1/16W 270	2	
R541	ERJ3GEYJ472V	1/16W 4.7K	1	
R542	ERJ3GEYJ104	1/16W 100K	1	
R543-45	ERJ3GEYJ331V	1/16W 330	3	
R551,52	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R553,54	ERJ3GEYJ272V	1/16W 2.7K	2	
R555,56	ERJ3GEYJ123V	1/16W 12K	2	
R559,60	ERJ3GEYJ392V	1/16W 3.9K	2	
R565	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R567	ERJ3GEYJ471V	1/16W 470	1	
R568	ERJ3GEYJ332V	1/16W 3.3K	1	D0GB332JA002
R569	ERJ3GEYJ471V	1/16W 470	1	
R571	ERJ3GEYJ222V	1/16W 2.2K	1	
R572	ERJ3GEYJ123V	1/16W 12K	1	
R575	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R578,79	ERJ3GEYJ222V	1/16W 2.2K	2	
R580	ERJ3GEYJ472V	1/16W 4.7K	1	
R581-83	ERJ3GEYJ473V	1/16W 47K	3	D0GB473JA002
R584-86	ERJ3GEYJ102V	1/16W 1K	3	
R591	ERJ3GEYJ391V	1/16W 390	1	
R592-94	ERJ3GEYJ473V	1/16W 47K	3	D0GB473JA002
R595	ERJ3GEYJ102V	1/16W 1K	1	
R601,02	ERJ3GEYJ122V	1/16W 1.2K	2	
R603,04	ERJ3GEYJ471V	1/16W 470	2	
R605,06	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R607,08	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R609,10	ERJ3GEYJ823V	1/16W 82K	2	D0GB823JA002
R611,12	ERJ3GEYJ392V	1/16W 3.9K	2	
R613,14	ERJ3GEYJ182V	1/16W 1.8K	2	
R615,16	ERJ3GEYJ102V	1/16W 1K	2	
R619,20	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002

R621,22	ERJ3GEYJ183V	1/16W 18K	2	D0GB183JA002
R623,24	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R625	ERJ3GEYJ123V	1/16W 12K	1	
R626	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R627,28	ERJ3GEYJ393V	1/16W 39K	2	D0GB393JA002
R629	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R631,32	ERJ3GEYJ100	1/16W 10	2	
R633-36	ERJ3GEYJ390	1/16W 39	4	
R639,40	MCR03PZHJ561	1/16W 560	2	
R641,42	ERJ3GEYJ683V	1/16W 68K	2	D0GB683JA002
R643,44	ERJ3GEYJ333V	1/16W 33K	2	D0GB333JA002
R645,46	ERJ3GEYJ562V	1/16W 5.6K	2	D0GB562JA002
R647,48	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R649,50	ERJ3GEYJ102V	1/16W 1K	2	
R651	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R652	ERJ3GEYJ104	1/16W 100K	1	
R653	ERJ3GEYJ273V	1/16W 27K	1	D0GB273JA002
R654	ERJ3GEYJ824V	1/16W 820K	1	D0GB824JA002
R655,56	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R657,58	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R660	ERJ3GEYJ222V	1/16W 2.2K	1	
R661	ERJ3GEYJ123V	1/16W 12K	1	
R662	ERJ3GEYJ102V	1/16W 1K	1	
R663,64	ERJ3GEYJ823V	1/16W 82K	2	D0GB823JA002
R665	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R666	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R667,68	MCR03PZHJ561	1/16W 560	2	
R671,72	ERJ3GEYJ472V	1/16W 4.7K	2	
R673,74	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R675,76	ERJ3GEYJ102V	1/16W 1K	2	
R677,78	ERJ3GEYJ273V	1/16W 27K	2	D0GB273JA002
R681	ERJ3GEYJ392V	1/16W 3.9K	1	
R682	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R683	ERJ3GEY0R00V	1/16W 0	1	
R685,86	ERJ3GEYJ563V	1/16W 56K	2	
R687	ERJ3GEYJ222V	1/16W 2.2K	1	
R688	ERJ3GEYJ393V	1/16W 39K	1	D0GB393JA002

R689,90	ERJ3GEYJ273V	1/16W 27K	2	D0GB273JA002
R691	ERJ3GEY0R00V	1/16W 0	1	
R692	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R693-98	ERJ3GEYJ102V	1/16W 1K	6	
R699	ERJ3GEYJ221V	1/16W 220	1	
R701,02	ERJ3GEYJ102V	1/16W 1K	2	
R703,04	ERJ3GEYJ183V	1/16W 18K	2	D0GB183JA002
R705,06	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R711,12	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R717	ERJ3GEYJ682V	1/16W 6.8K	1	D0GB682JA002
R723	ERJ3GEYJ224V	1/16W 220K	1	D0GB224JA002
R724	ERJ3GEYJ683V	1/16W 68K	1	D0GB683JA002
R725	ERJ3GEYJ102V	1/16W 1K	1	
R726	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R727	ERJ3GEYJ333V	1/16W 33K	1	D0GB333JA002
R728	ERJ3GEYJ472V	1/16W 4.7K	1	
R729	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R730	ERJ3GEYJ472V	1/16W 4.7K	1	
R731	ERJ14YKR39H	1/4W 0.39	1	
R733	ERDS1FVJ220T	1/2W 22	1	
R801,02	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R803,04	ERJ3GEYJ221V	1/16W 220	2	
R805	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002 (PP)
R807	ERJ3GEY0R00V	1/16W 0	1	(EB)(EG)
R808	ERJ3GEY0R00V	1/16W 0	1	
R809	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R810	ERJ3GEYJ472V	1/16W 4.7K	1	
R811,12	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R813	ERJ3GEYJ102V	1/16W 1K	1	
R814	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R815	ERJ3GEYJ472V	1/16W 4.7K	1	
R816,17	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R818-25	ERJ3GEYJ221V	1/16W 220	8	
R826,27	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R828-30	ERJ3GEYJ681V	1/16W 680	3	D0GB681JA002
R831	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002

R835	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R836	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R837	ERJ3GEYJ102V	1/16W 1K	1	
R838	ERJ3GEYJ331V	1/16W 330	1	
R839	ERJ3GEYJ274V	1/16W 270K	1	
R840	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R841	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R842	ERJ3GEY0R00V	1/16W 0	1	(PP)
R842	ERJ3GEYJ821V	1/16W 820	1	(EB)(EG)
R843	ERJ3GEYJ331V	1/16W 330	1	
R844-47	ERJ3GEYJ102V	1/16W 1K	4	
R848	ERJ3GEY0R00V	1/16W 0	1	
R849	ERJ3GEYJ182V	1/16W 1.8K	1	(EB)(EG)
R849	ERJ3GEYJ821V	1/16W 820	1	(PP)
R850-52	ERJ3GEYJ223V	1/16W 22K	3	D0GB223JA002
R853	ERJ3GEYJ472V	1/16W 4.7K	1	
R854	ERJ3GEYJ221V	1/16W 220	1	
R855-57	ERJ3GEYJ102V	1/16W 1K	3	
R858	ERJ3GEYJ104	1/16W 100K	1	
R859	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R861,62	ERJ3GEYJ472V	1/16W 4.7K	2	
R863,64	ERJ3GEYJ104	1/16W 100K	2	(PP)
R865,66	ERJ3GEYJ331V	1/16W 330	2	
R869	ERJ3GEYJ331V	1/16W 330	1	
R870	ERJ3GEYJ221V	1/16W 220	1	
R872-75	ERJ3GEYJ331V	1/16W 330	4	
R876,77	ERJ3GEYJ221V	1/16W 220	2	
R879,80	ERJ3GEYJ221V	1/16W 220	2	
R881-85	ERJ3GEYJ102V	1/16W 1K	5	
R886	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R887	ERJ3GEYJ221V	1/16W 220	1	
R888	ERJ3GEYJ104	1/16W 100K	1	
R889-91	ERJ3GEYJ221V	1/16W 220	3	
R895,96	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R897	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R898	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R899	ERJ3GEYJ221V	1/16W 220	1	

R901,02	ERJ3GEYJ151V	1/16W 150	2	
R903-05	ERJ3GEYJ332V	1/16W 3.3K	3	D0GB332JA002
R906	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R910	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R911	ERDS2FJ821	1/4W 820	1	
R912	ERDS2FJ102	1/4W 1K	1	
R913	ERDS2FJ122	1/4W 1.2K	1	
R914	ERDS2FJ152	1/4W 1.5K	1	
R915	ERDS2FJ182	1/4W 1.8K	1	
R916	ERDS2FJ222	1/4W 2.2K	1	
R917	ERDS2FJ332	1/4W 3.3K	1	
R918	ERDS2FJ472	1/4W 4.7K	1	
R919	ERDS2TJ682T	1/4W 6.8K	1	
R920	ERDS2FJ123	1/4W 12K	1	
R921	ERDS2FJ223	1/4W 22K	1	
R922	ERJ3GEYJ152V	1/16W 1.5K	1	
R925	ERDS2FJ1R8	1/4W 1.8	1	
R926	ERDS2FJ1R5	1/4W 1.5	1	
R927	ERDS2FJ1R8	1/4W 1.8	1	
R928	ERDS2FJ1R5	1/4W 1.5	1	
R929	ERDS2FJ472	1/4W 4.7K	1	
R930	ERDS2FJ473	1/4W 47K	1	
R931	ERDS2FJ683	1/4W 68K	1	
R932	ERDS2FJ121	1/4W 120	1	
R933-35	ERDS2FJ102	1/4W 1K	3	
R2021	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R2022	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R2023	ERJ3GEYJ752V	1/16W 7.5K	1	
R2025,26	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R2027,28	ERJ3GEYJ563V	1/16W 56K	2	
R2029	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R2030	ERJ3GEYJ102V	1/16W 1K	1	
R2031	MCR03PZHJ561	1/16W 560	1	
R2032	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R2033	ERJ3GEYJ472V	1/16W 4.7K	1	
R2034	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R2035	ERJ3GEYJ272V	1/16W 2.7K	1	

R2036	ERJ3GEY0R00Z	CHIP JUMPER	1	
R2037	ERJ3GEYJ683V	1/16W 68K	1	D0GB683JA002
R2038	ERJ3GEYD153V	1/16W 15K	1	D0HB153ZA002
R2039	ERJ3GEYJ105V	1/16W 1M	1	
R2040,41	ERJ3GEYJ822V	1/16W 8.2K	2	D0GB822JA002
R2042-47	ERJ3GEYD153V	1/16W 15K	6	D0HB153ZA002
R2048	ERJ3GEYJ475V	1/16W 4.7M	1	
R2049	ERJ3GEYJ102V	1/16W 1K	1	
R2051,52	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R2053,54	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R2501,02	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R2503	ERJ3GEY0R00V	1/16W 0	1	
R2504	ERJ14YKR39H	1/4W 0.39	1	
R2521	ERJ6GEYJ6R8V	1/8W 6.8	1	
R2522-24	ERJ3GEY0R00V	1/16W 0	3	
R3001	ERJ3GEYJ220V	1/16W 22	1	
R3004	ERJ3RBD183	1/16W 18K	1	(EB)(EG)
R3004	ERJ3RBD203V	1/16W 20K	1	(PP)
R3005	ERJ3RBD122V	1/16W 1.2K	1	(PP)
R3005	ERJ3RBD911	1/16W 910	1	(EB)(EG)
R3006	ERJ3RBD153	1/16W 15K	1	
R3007	ERJ3RBD202	1/16W 2K	1	
R3008	ERJ3RBD132V	1/16W 1.3K	1	
R3009,10	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R3051,52	ERJ3GEYJ101	1/16W 100	2	D0GB101JA002
R3101	ERJ3RED620V	1/16W 62	1	
R3102	ERJ3RED150V	1/16W 15	1	
R3106	ERJ3RED620V	1/16W 62	1	
R3107	ERJ3RED100V	1/16W 10	1	(PP)
R3107	ERJ3RED150V	1/16W 15	1	(EB)(EG)
R3111	ERJ3RBD101	1/16W 100	1	ERJ3RBD101V
R3112	ERJ3GEYJ3R3V	1/16W 3.3	1	(EB)(EG)
R3112	ERJ3RED160V	1/16W 16	1	(PP)
R3113	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002
R3114	ERJ3GEYJ102V	1/16W 1K	1	
R3116	ERJ3RED560V	1/16W 56	1	
R3117	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002

R3118	ERJ3GEYJ102V	1/16W 1K	1	
R3121	ERJ3RED560V	1/16W 56	1	
R3122	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002
R3123	ERJ3GEYJ102V	1/16W 1K	1	
R3235	MCR03PZHJ561	1/16W 560	1	
R3236	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R3237	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R3238	ERJ3GEYJ102V	1/16W 1K	1	
R3239	MCR03PZHJ561	1/16W 560	1	
R3240	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R3241	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R3242	ERJ3GEYJ102V	1/16W 1K	1	
R3243	MCR03PZHJ561	1/16W 560	1	
R3244	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R3245	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R3246	ERJ3GEYJ102V	1/16W 1K	1	
R4213	ERJ3GEYJ470V	1/16W 47	1	
R5101	ERJ3GEYJ472V	1/16W 4.7K	1	
R5111	ERJ3GEYJ2R2V	1/16W 2.2	1	D0GB2R2JA002
R5112	ERJ12YJ270H	1/2W 27	1	
R5113	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R5114	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R5115	ERJ3GEYJ2R2V	1/16W 2.2	1	D0GB2R2JA002
R5116	ERJ12YJ270H	1/2W 27	1	
R5117	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R5121-25	ERJ3GEYJ560V	1/16W 56	5	
R5126	ERJ3GEYJ102V	1/16W 1K	1	
R5127	ERJ3GEYJ560V	1/16W 56	1	
R5132,33	ERJ3GEYJ102V	1/16W 1K	2	
R5201	ERJ3GEY0R00Z	CHIP JUMPER	1	
R5203	ERJ3GEY0R00Z	CHIP JUMPER	1	
R5221	ERJ3GEY0R00Z	CHIP JUMPER	1	
R5231,32	ERJ3GEYJ822V	1/16W 8.2K	2	D0GB822JA002
R5257	ERJ3GEY0R00Z	CHIP JUMPER	1	
R5262	ERJ3GEY0R00Z	CHIP JUMPER	1	
R5281	ERJ3GEYJ105V	1/16W 1M	1	
R5294	ERJ3GEYJ123V	1/16W 12K	1	

R5295	ERJ3GEYJ243V	1/16W 24K	1	D0GB243JA002
R5320	ERJ3GEY0R00Z	CHIP JUMPER	1	
R6201	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R6202	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R6206	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R6207,08	ERJ3GEYJ472V	1/16W 4.7K	2	
R6210	ERJ3GEYJ101	1/16W 100	1	D0GB101JA002
R6211	ERJ3GEYJ472V	1/16W 4.7K	1	
R6215	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R6216	ERJ3GEYJ102V	1/16W 1K	1	
R6251,52	ERJ3RBD101	1/16W 100	2	ERJ3RBD101V
R6253	ERJ3RBD102V	1/16W 1K	1	
R6562	ERJ3RBD331	1/16W 330	1	
R6563	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R6565	ERJ3GEYJ470V	1/16W 47	1	
R6566	ERJ3GEYJ100	1/16W 10	1	
RA2021	EXBV4V102JV	1/32W 1K	1	
RA2022	EXBV4V472JV	1/32W 4.7K	1	
RA2023, 24	EXBV8VR000V	1/8W 0	2	
RA2501	EXBV4V103JV	1/32W 10K	1	
RA2521	EXBV8V473JV	1/16W 47K	1	
RA3001	EXBV4V102JV	1/32W 1K	1	
RA3002 -12	EXBV8V820JV	1/16W 82	11	
RA3013	EXBV4V220JV	1/32W 100	1	
RA3051	EXBV4V101JV	1/32W 100	1	
RA3053	EXBV4V101JV	1/32W 100	1	
RA5121	EXBV8V560JV	1/16W 56	1	
RA5122, 23	EXBV4V560J	1/32W 56	2	
RA5201	EXBV8V101JV	1/16W 100	1	
RA6201, 02	EXBV4V103JV	1/32W 10K	2	
RA6203	EXBV4V472JV	1/32W 4.7K	1	
RA6204	EXBV4V103JV	1/32W 10K	1	
RA6205	EXBV8V103J	1/16W 10K	1	D0GZ103J0001

RA6206	EXBV4V473JV	1/32W 47K	1	
RM901	RMN0738	FL HOLDER	1	
S901-12	EVQ11G05R	SW,OPERATION	12	
S913-15	RSH1A044-1A	SW,DETECTION	3	K0L1BA000044
W902	REZ1516	WIRE ASS´Y	1	
W905	REZ1567	WIRE ASS´Y	1	
W906	REZ1561	WIRE ASS´Y	1	
W2501	REZ1514	WIRE ASS´Y	1	
WA903	REZ1515	WIRE ASS´Y	1	
WA907	REZ1566	WIRE ASS´Y	1	
X151	RSXC4M33S02T	OSCILLATOR	1	H0H433400001 (EB)(EG)
X501	RSXZ36M8M01T	OSCILLATOR	1	
X801	H2B100500004	OSCILLATOR	1	
X6561	H0J368600005	OSCILLATOR	1	
Z101	ENG06701Q	TUNER PACK	1	(PP)
Z101	ENG07709Q	TUNER PACK	1	(EB)(EG)
Z301-03	J0JBC0000015	COIL	3	
Z308-10	J0JBC0000015	COIL	3	
Z311-14	J0JBC0000015	COIL	4	(EB)(EG)
Z901	B3RAD0000033	SENSOR	1	

TOP PREVIOUS NEXT

25 Cabinet Parts Location

26 Loading Unit Parts Location

27 Traverse Unit Parts Location

28 Packaging

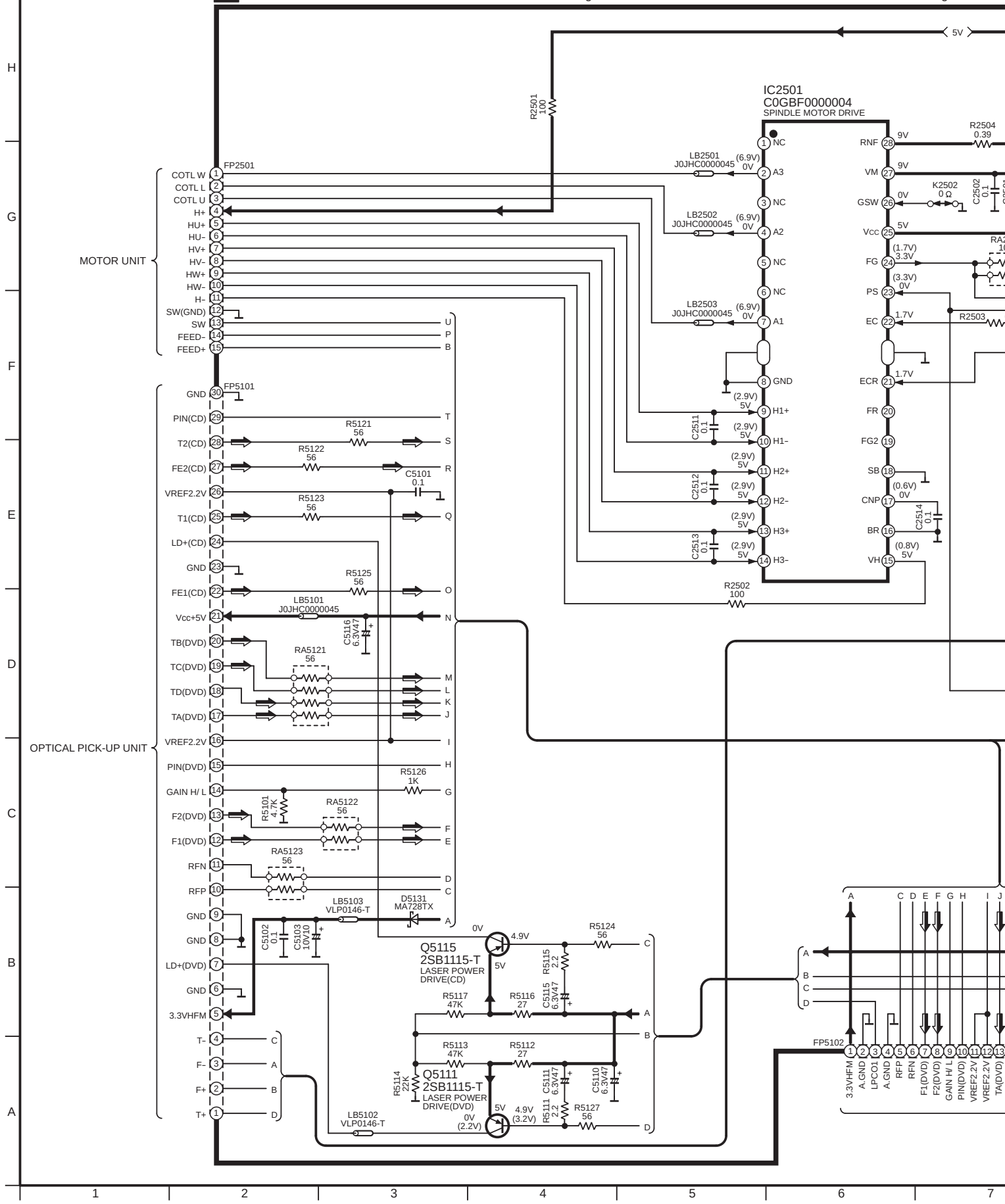
29 Schematic Diagram for printing with letter size

TOP PREVIOUS

SCHEMATIC DIAGRAM-1

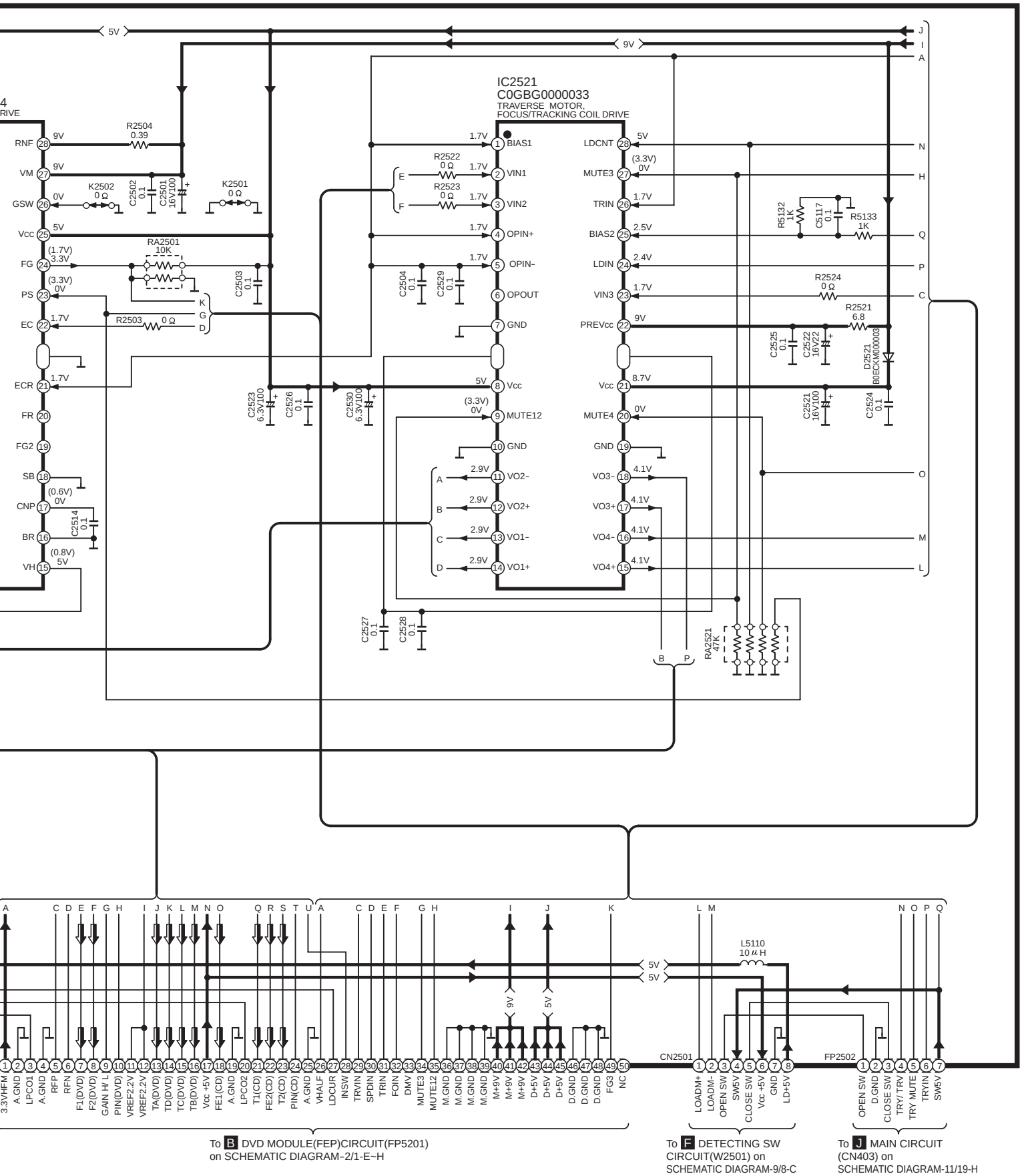
A INTERFACE CIRCUIT

NOTE:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.



the schematic diagram.

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE



To B DVD MODULE(FEP)CIRCUIT(FP5201) on SCHEMATIC DIAGRAM–2/1-E~H

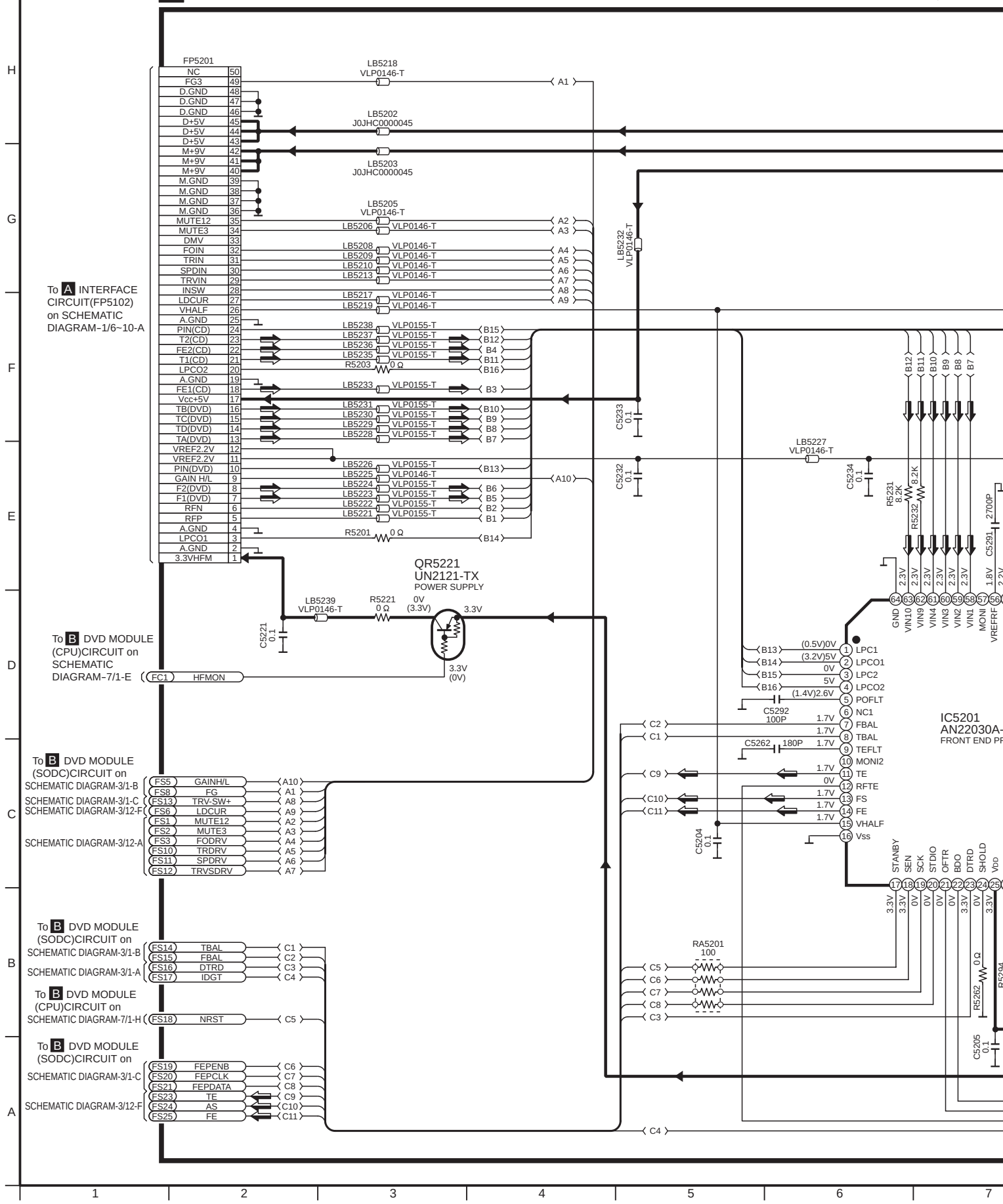
To F DETECTING SW CIRCUIT(W2501) on SCHEMATIC DIAGRAM-9/8-C

To J MAIN CIRCUIT (CN403) on SCHEMATIC DIAGRAM-11/19-H

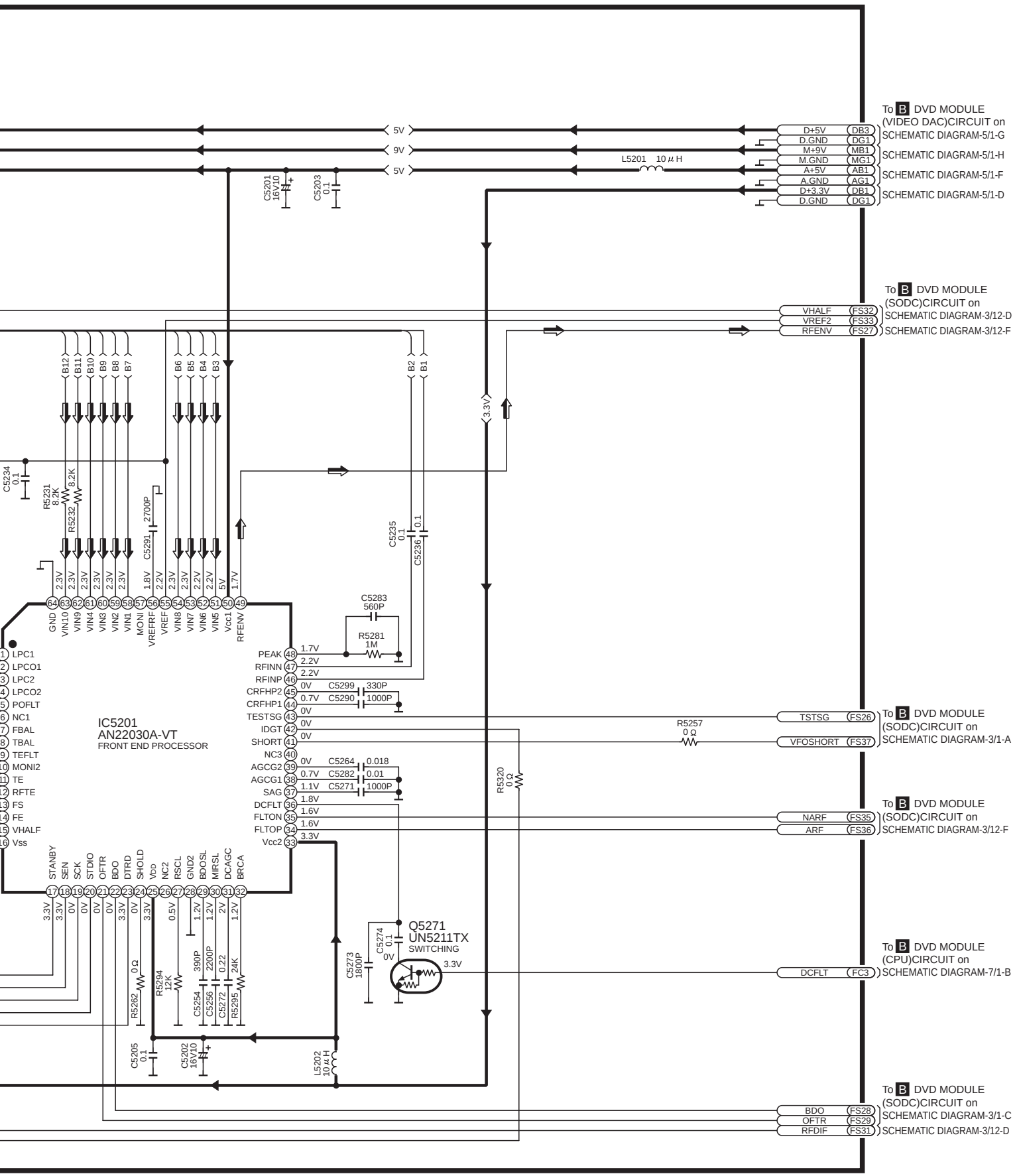
SA-ST1(PP,EB,EG) INTERFACE CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–2

B DVD MODULE(FEP) CIRCUIT



:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE

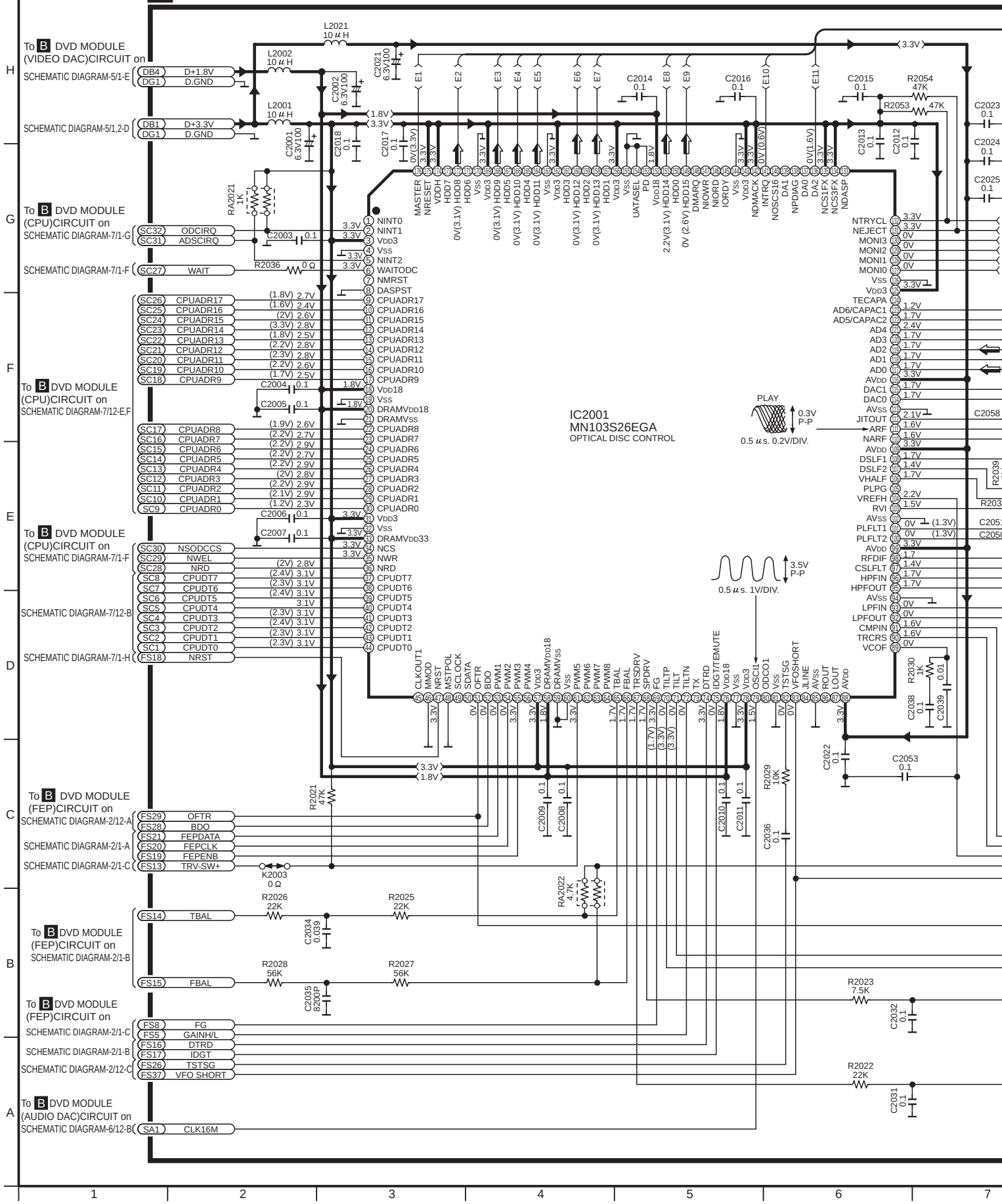


SA-ST1(PP,EB,EG) DVD MODULE(FEP) CIRCUIT DIAGRAM

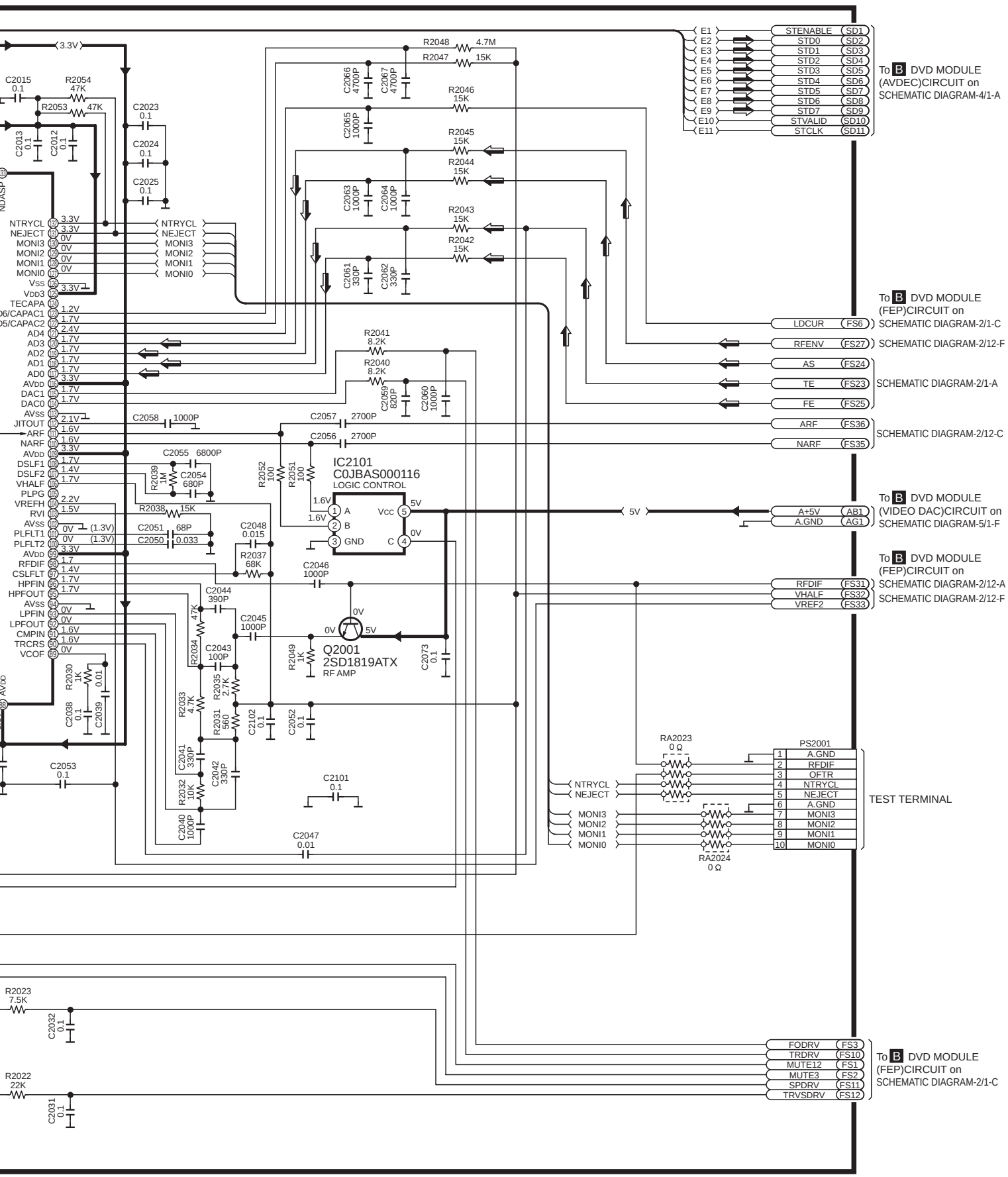
SCHEMATIC DIAGRAM-3

B DVD MODULE(SODC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE



IGNAL LINE

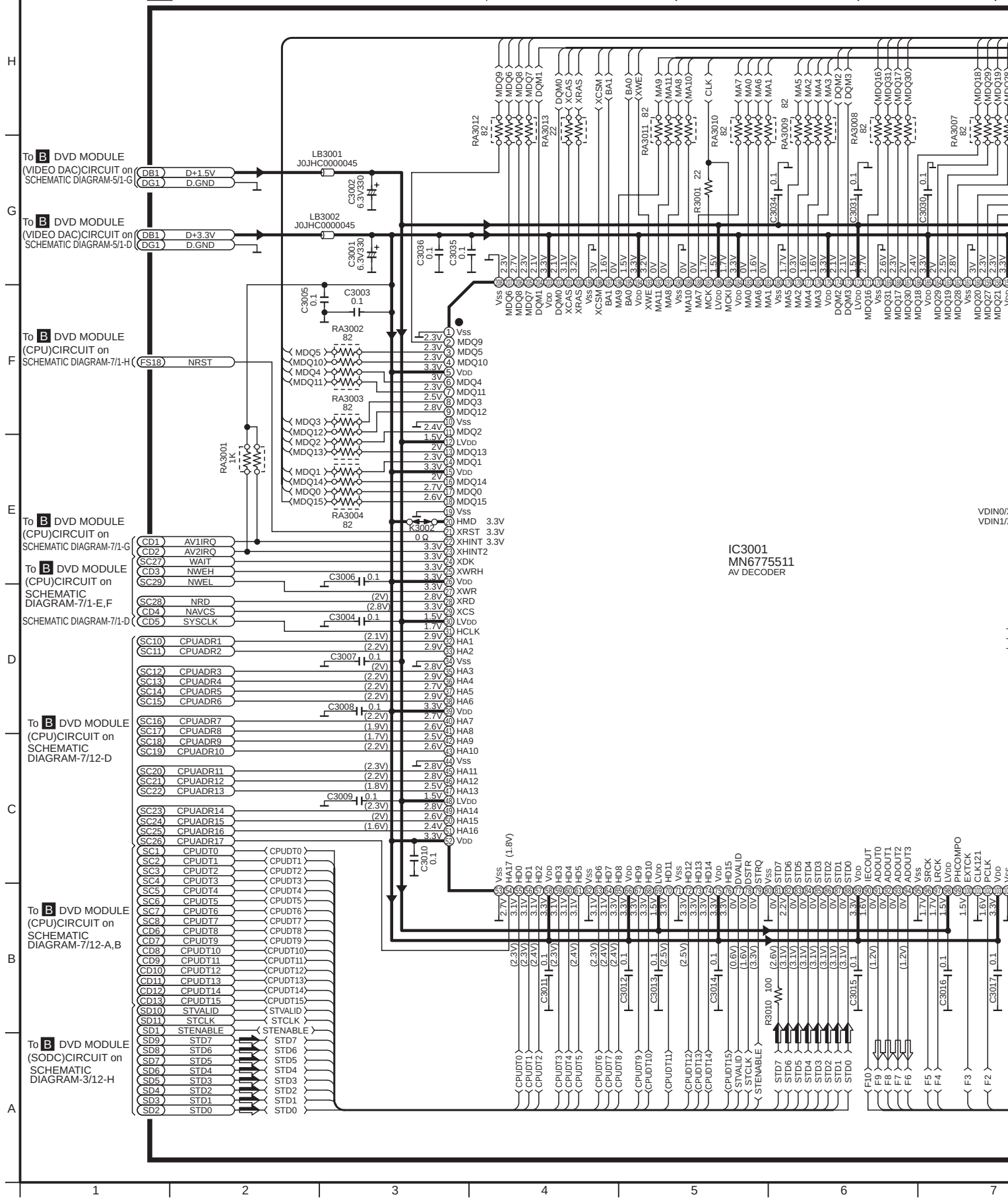


SA-ST1(PP,EB,EG) DVD MODULE(SODC) CIRCUIT DIAGRAM

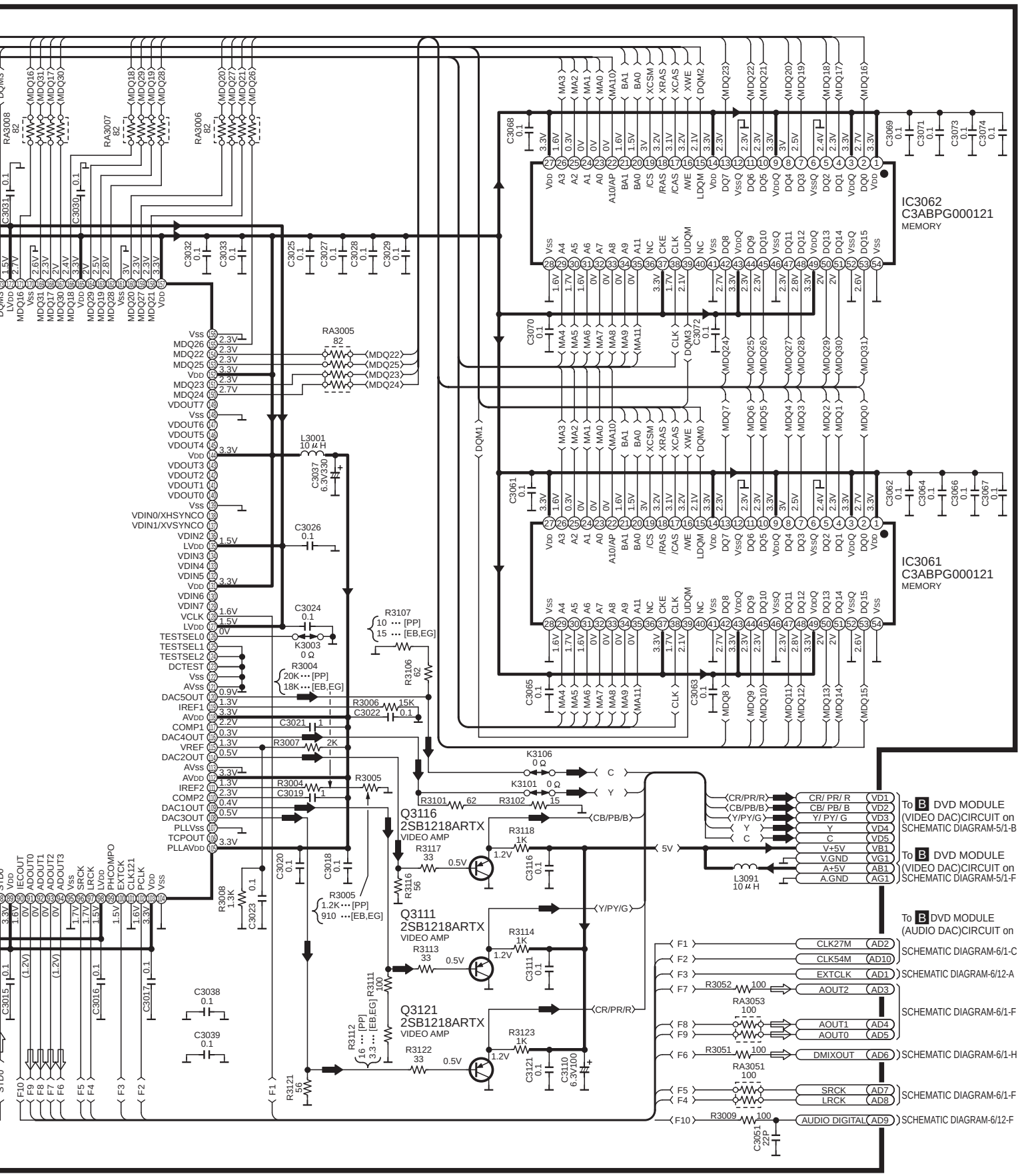
SCHEMATIC DIAGRAM-4

B DVD MODULE(AVDEC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE :AUDIO SIGNAL LINE



:AUDIO SIGNAL LINE :VIDEO SIGNAL LINE

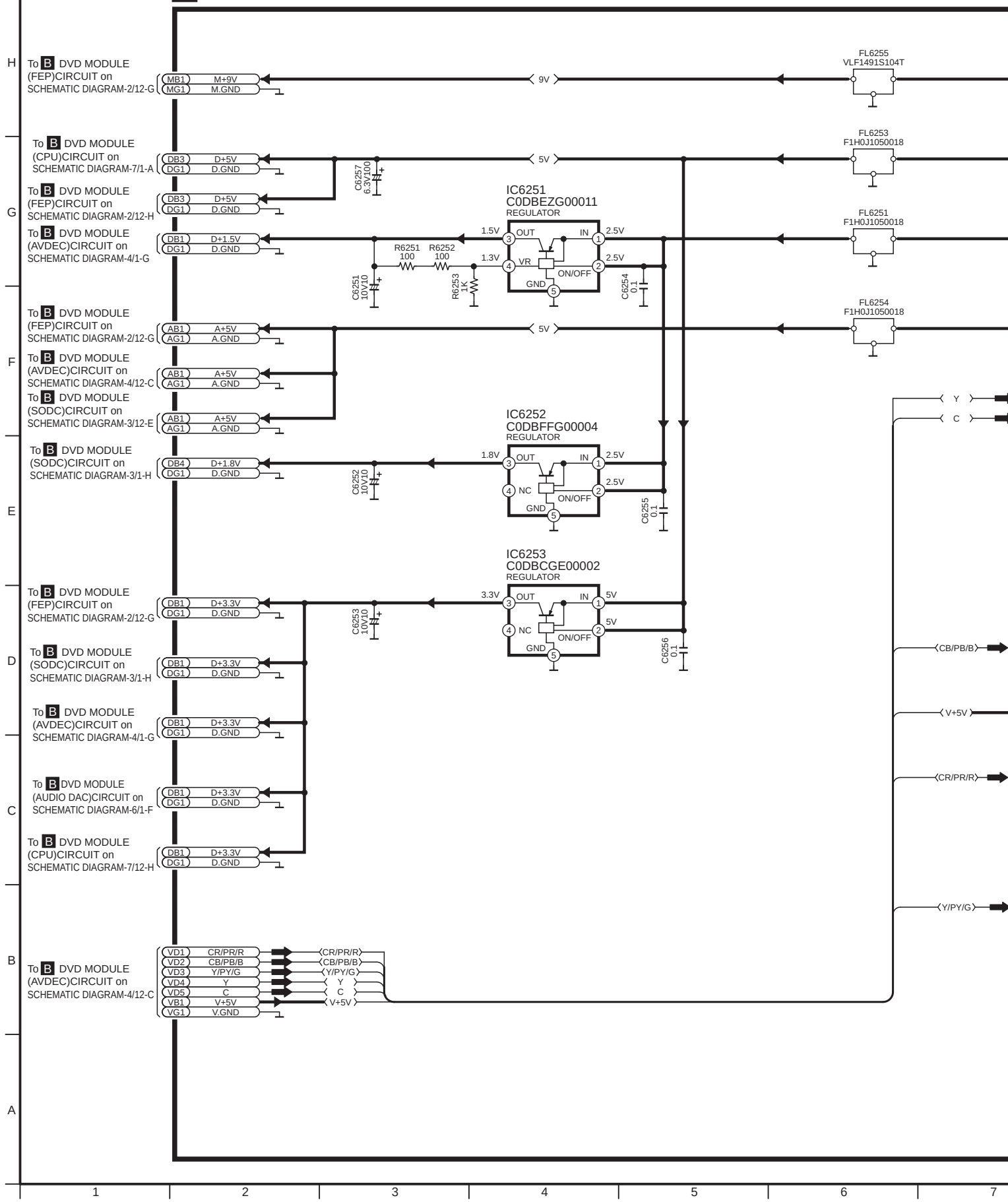


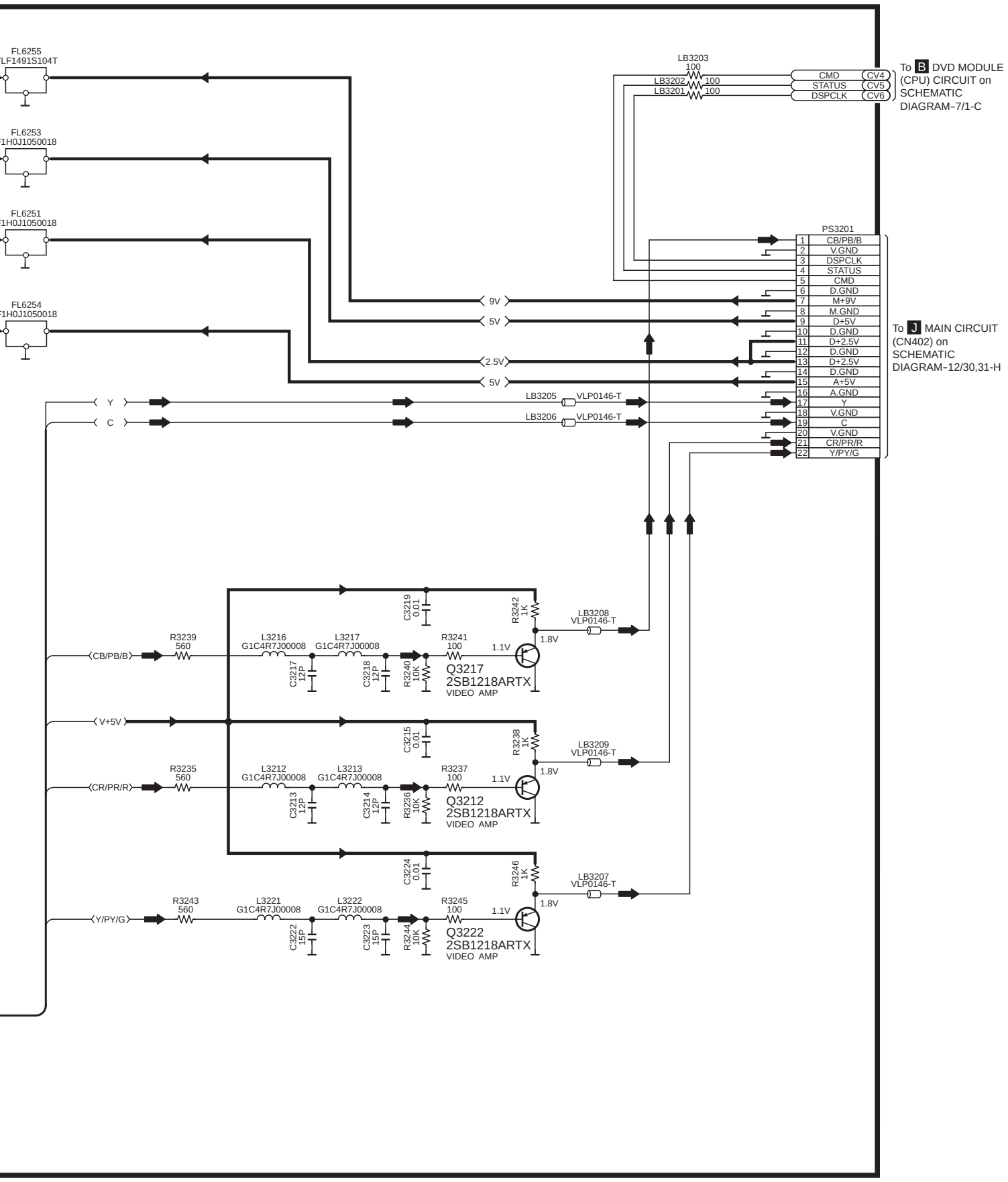
SA-ST1(PP,EB,EG) DVD MODULE(AVDEC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-5

B DVD MODULE(VIDEO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO SIGNAL LINE



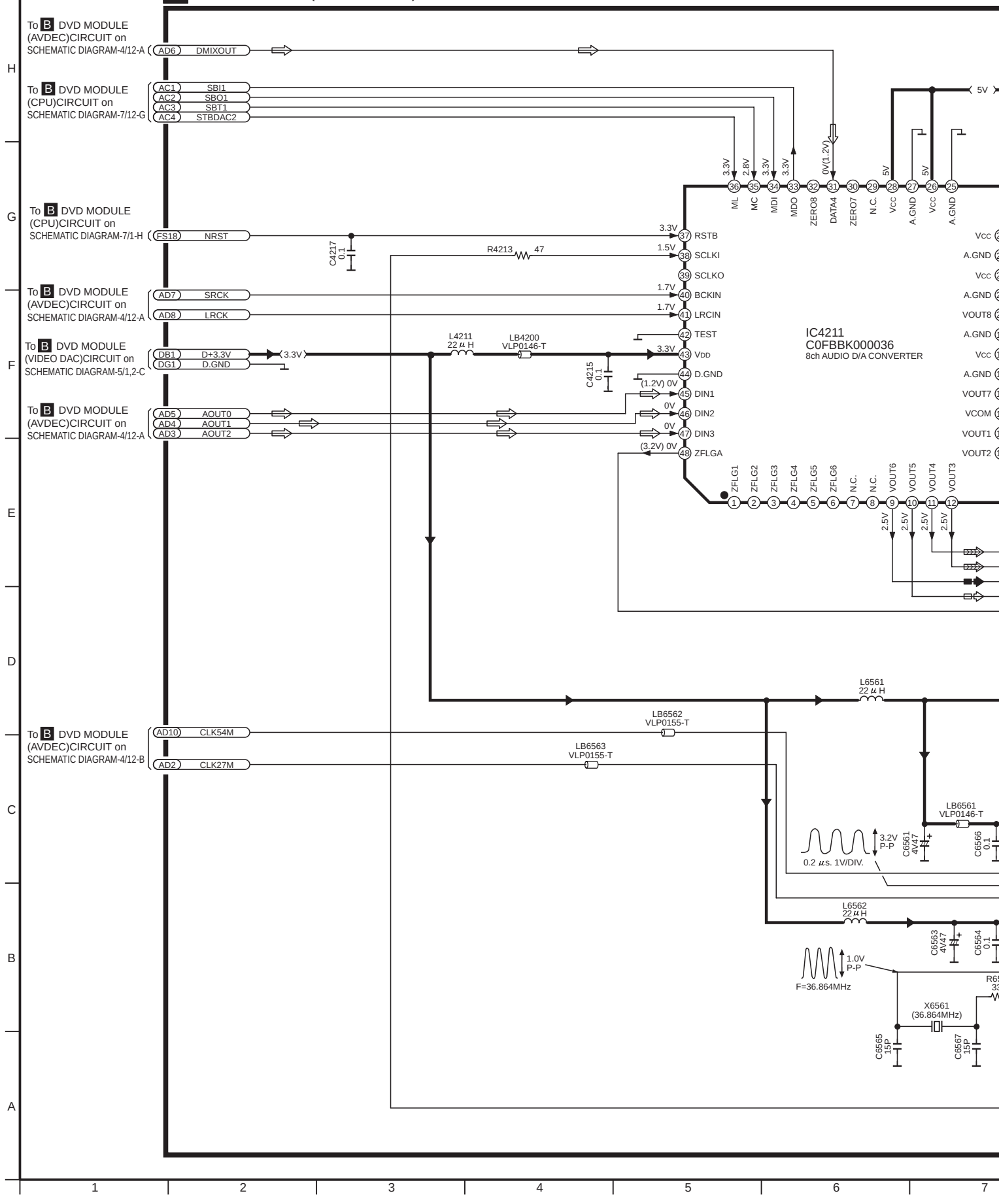


SA-ST1(PP,EB,EG) DVD MODULE(VIDEO DAC) CIRCUIT DIAGRAM

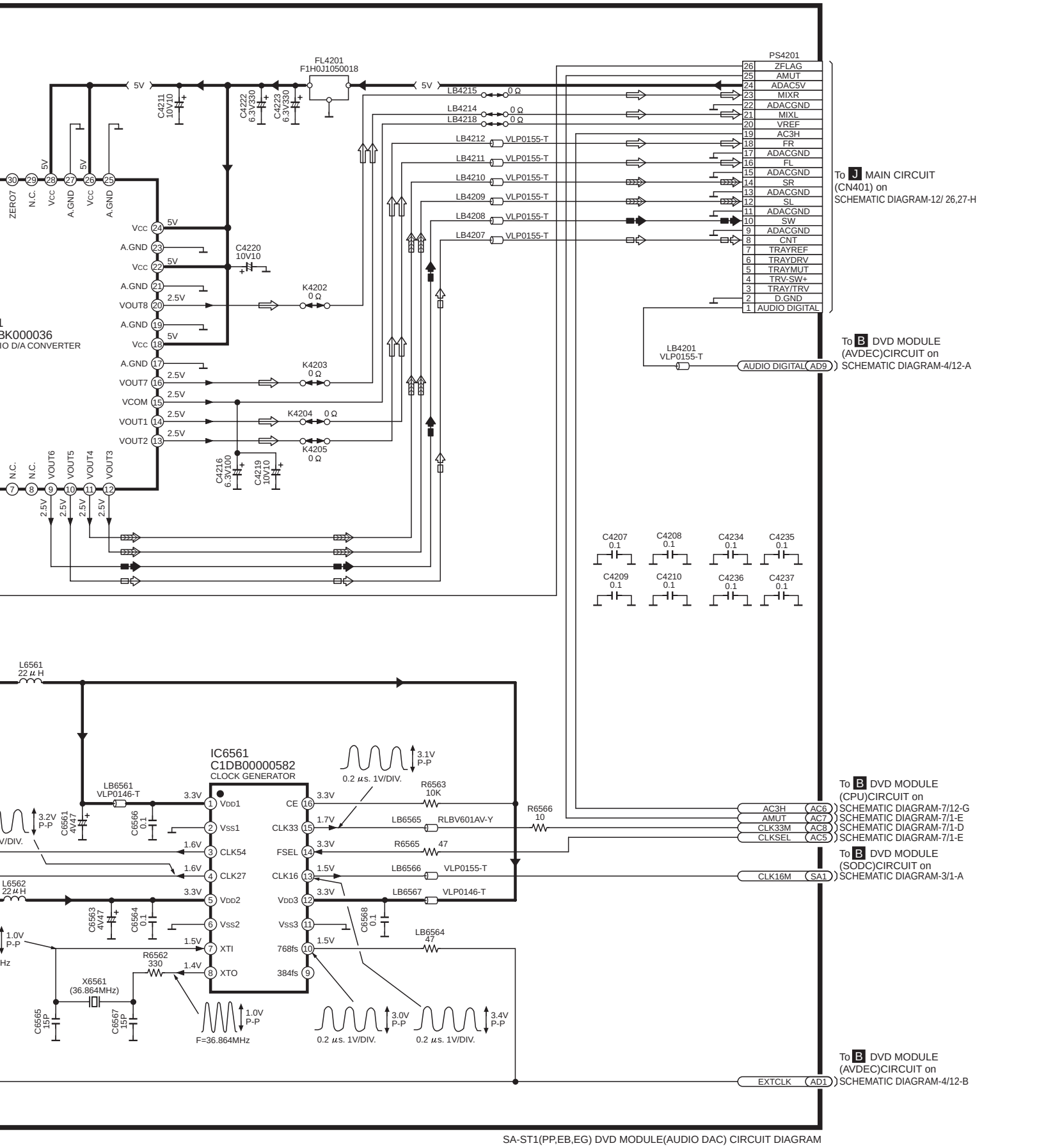
SCHEMATIC DIAGRAM-6

B DVD MODULE(AUDIO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE :SURROUND SP. SIG



LINE :SURROUND SP. SIGNAL LINE :CENTER SP. SIGNAL LINE :SUB WOOFER SIGNAL LINE

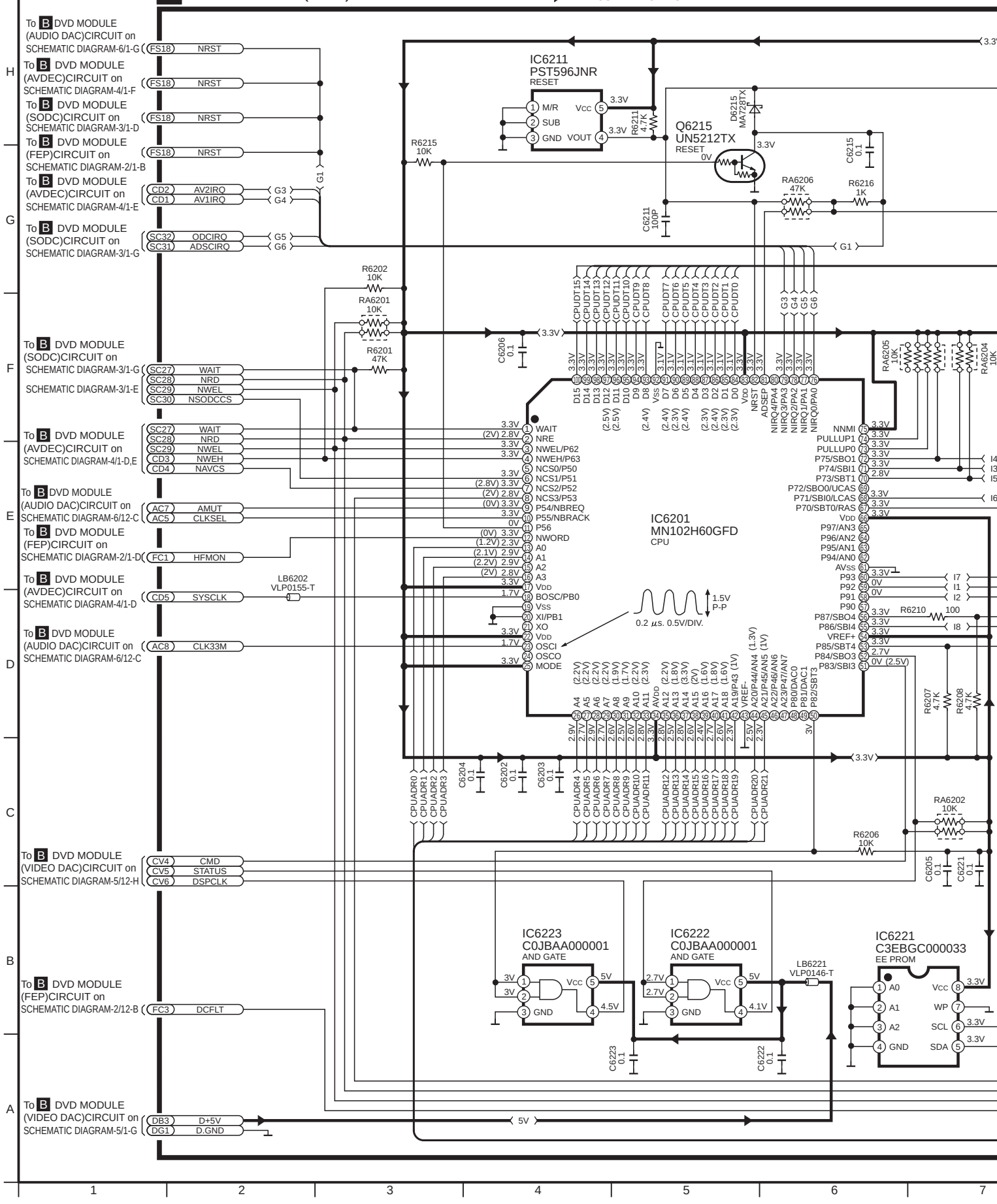


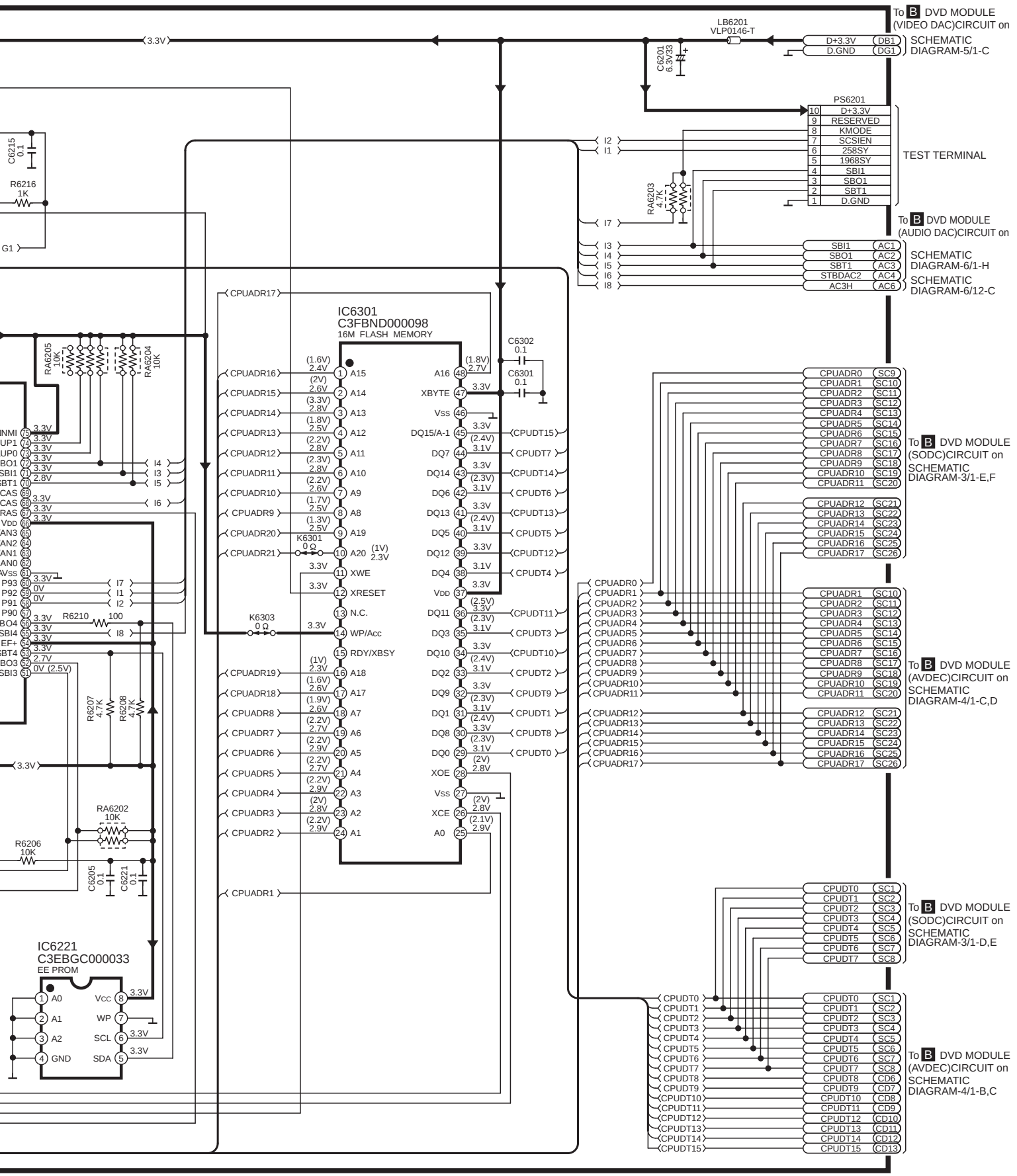
SA-ST1(PP,EB,EG) DVD MODULE(AUDIO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-7

B DVD MODULE(CPU) CIRCUIT

:POSITIVE VOLTAGE LINE



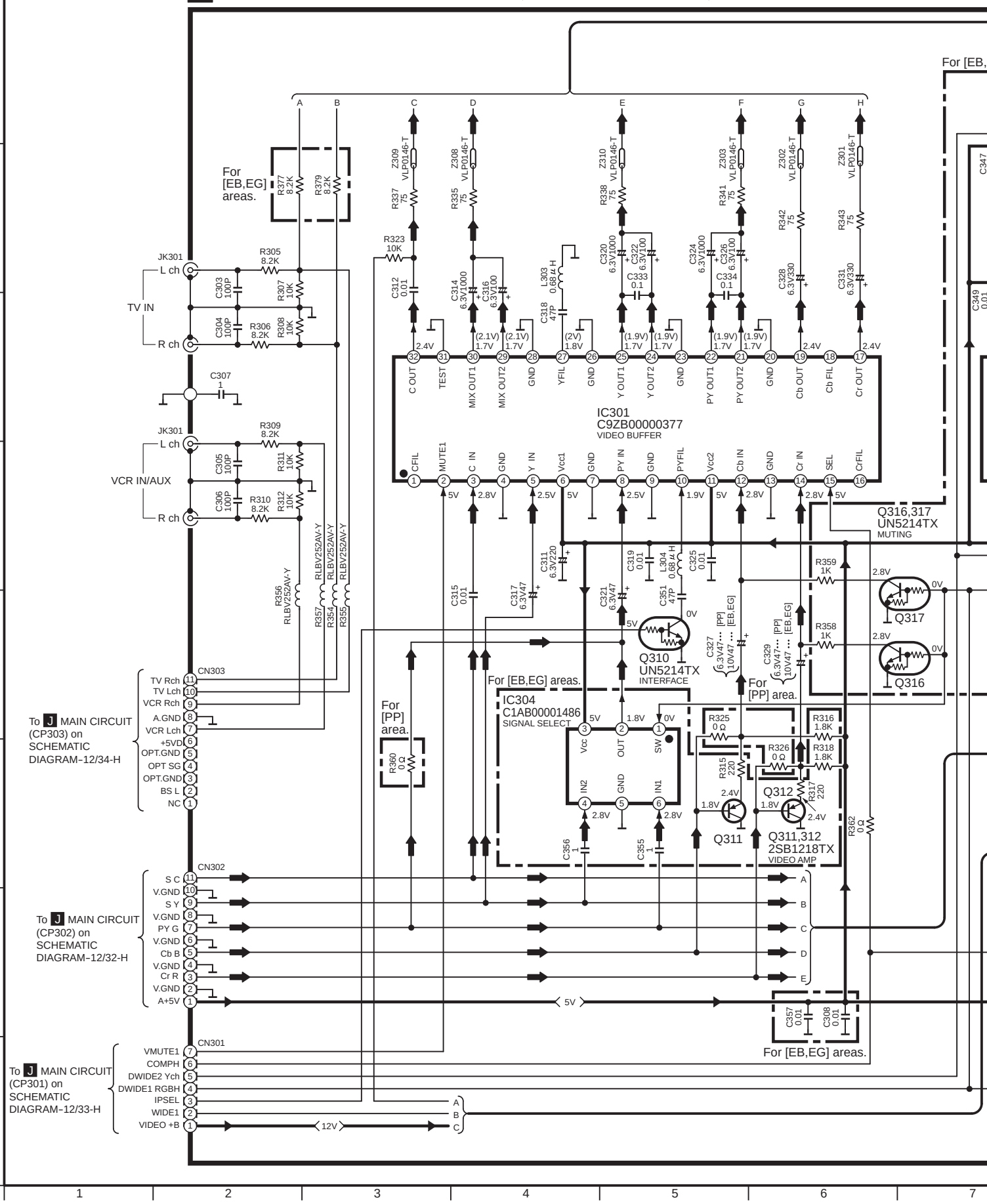


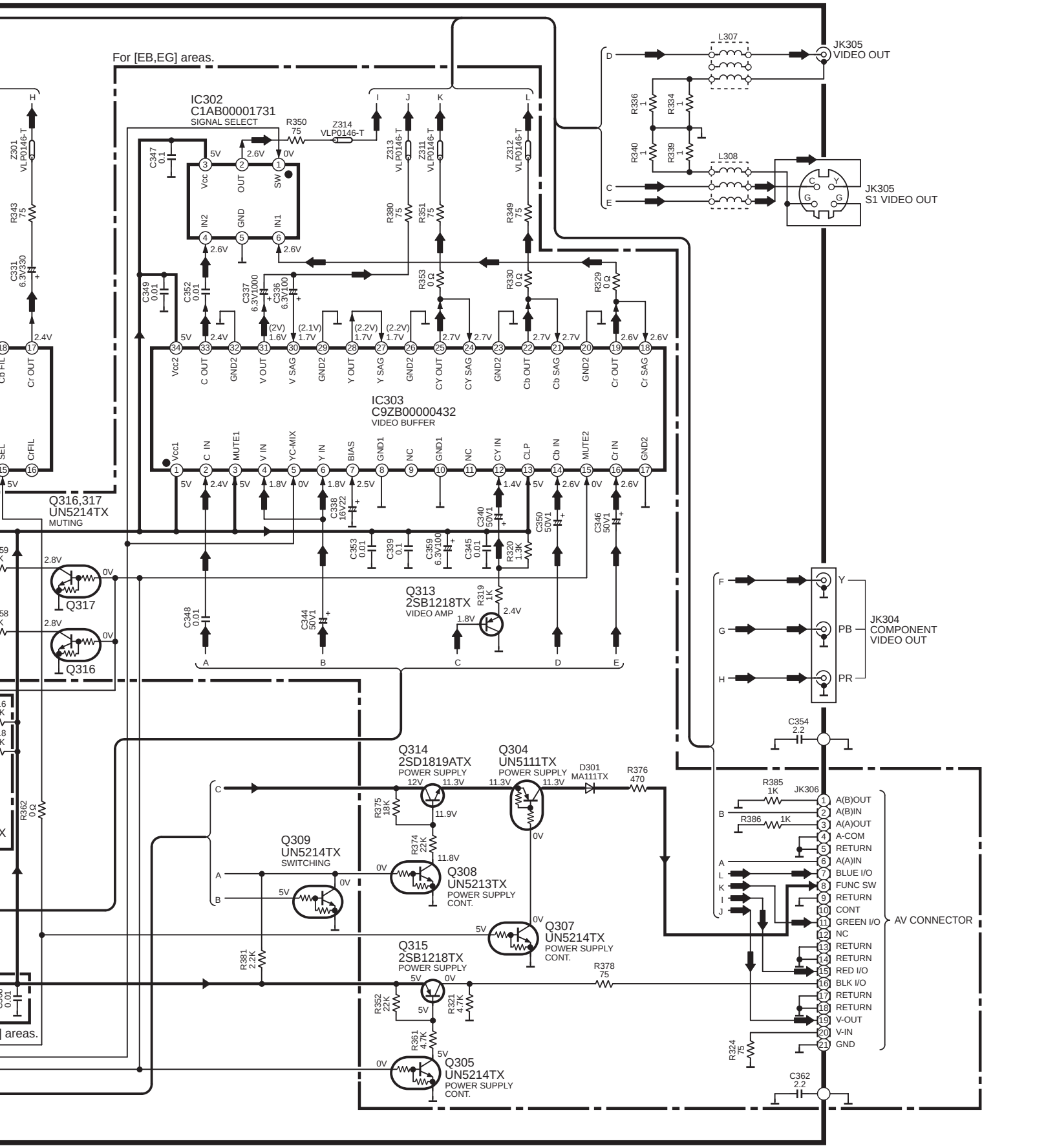
SA-ST1(PP,EB,EG) DVD MODULE(CPU) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–8

C IN/OUT TERMINAL CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO SIGNAL LINE



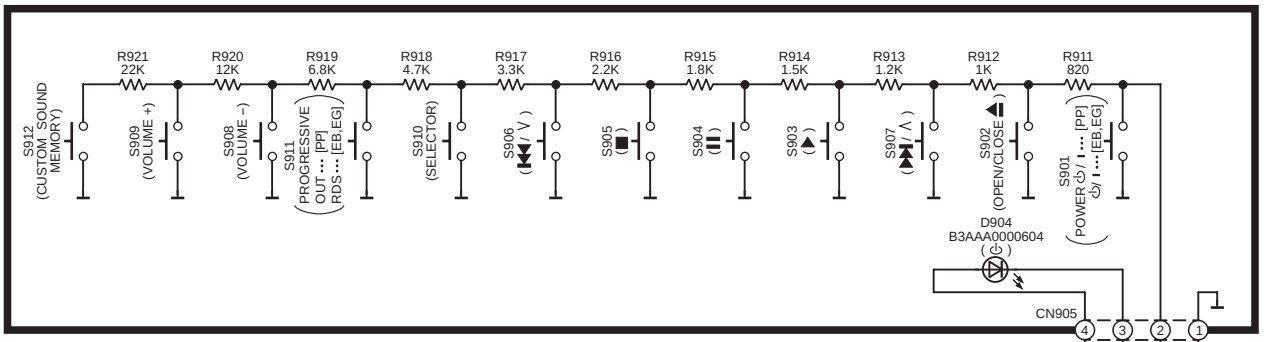


SA-ST1(PP,EB,EG) IN/OUT TERMINAL CIRCUIT DIAGRAM

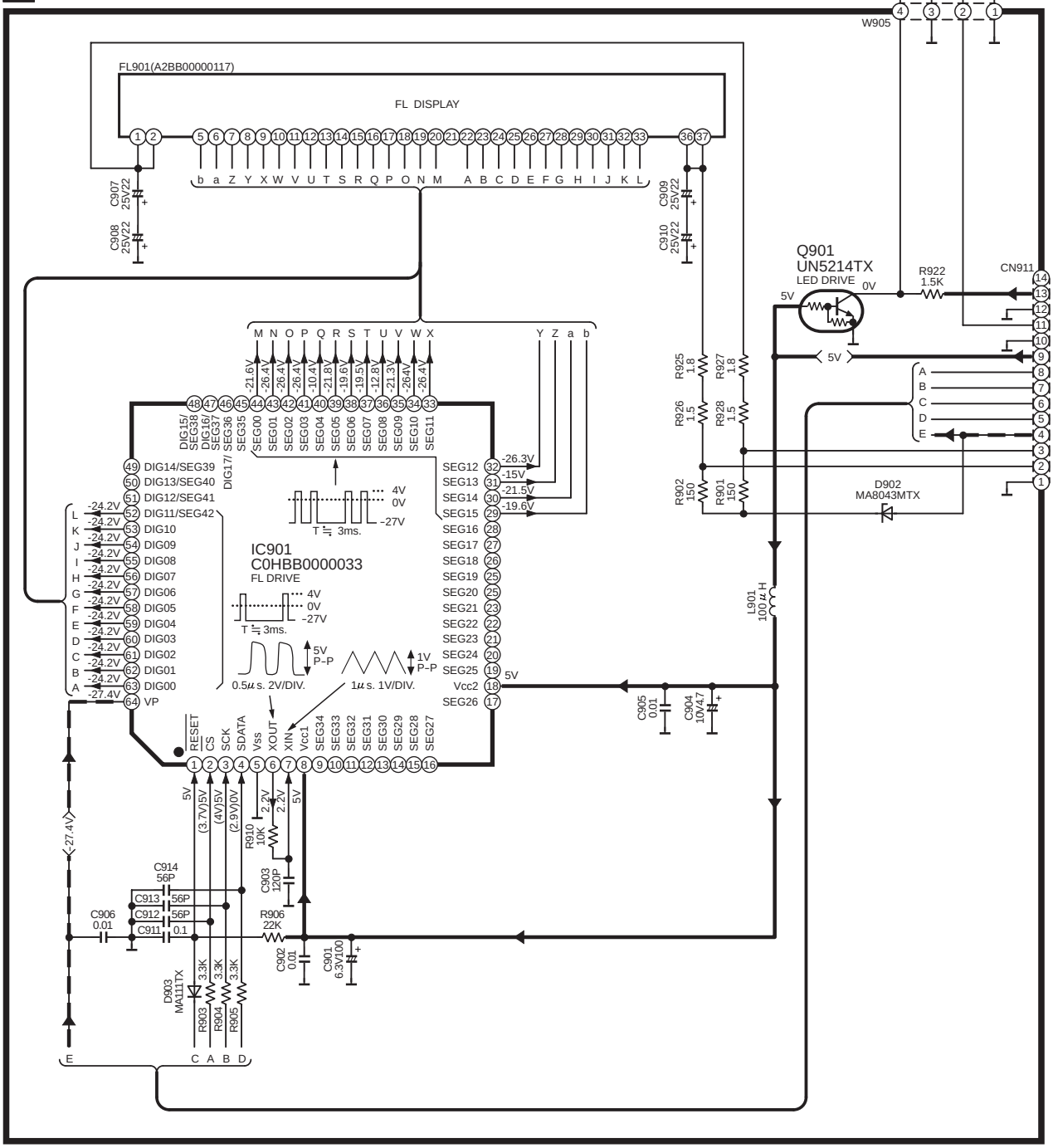
SCHEMATIC DIAGRAM-9

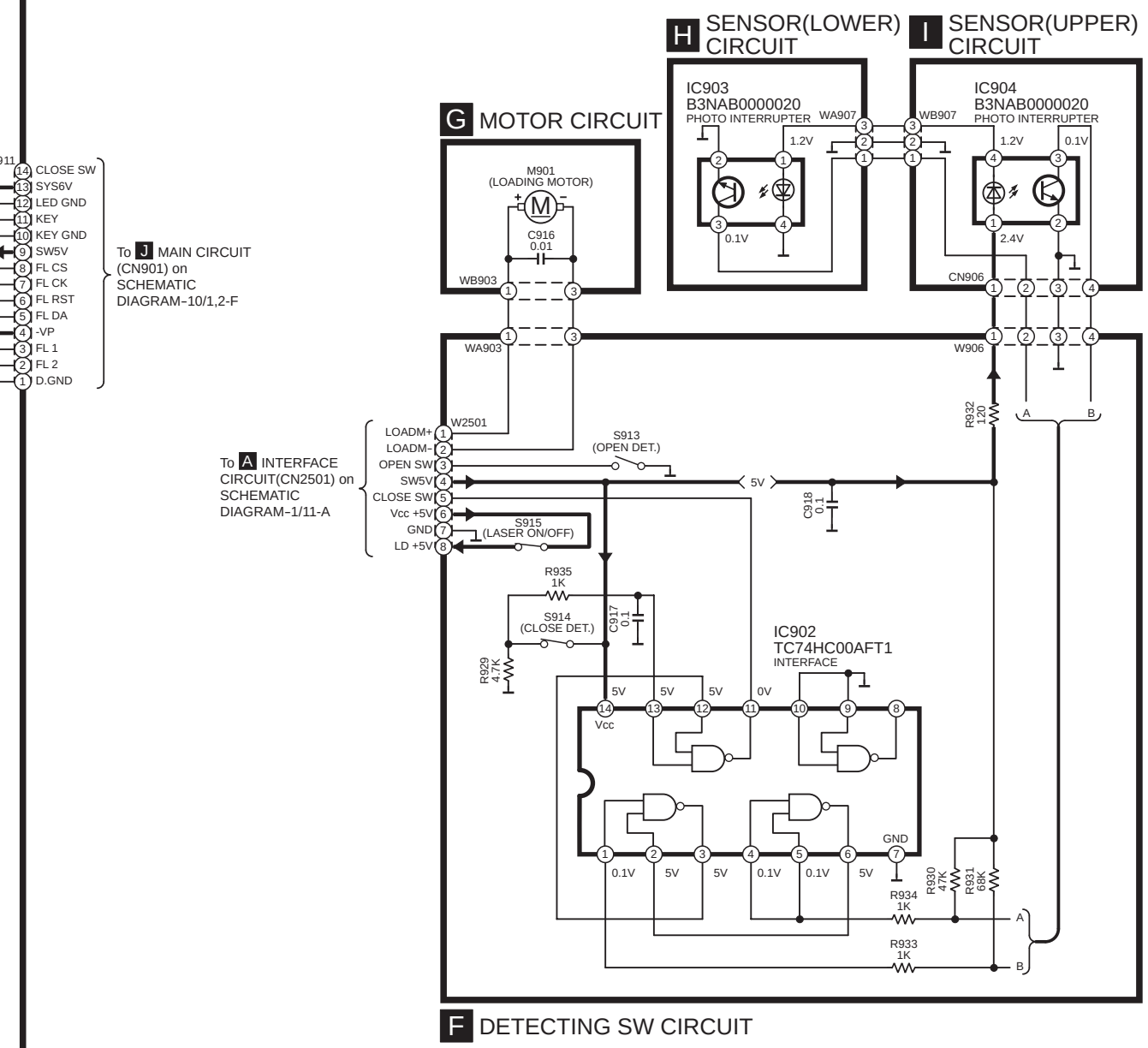
D OPERATION CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :VIDEO SIGNAL LINE



E FL CIRCUIT

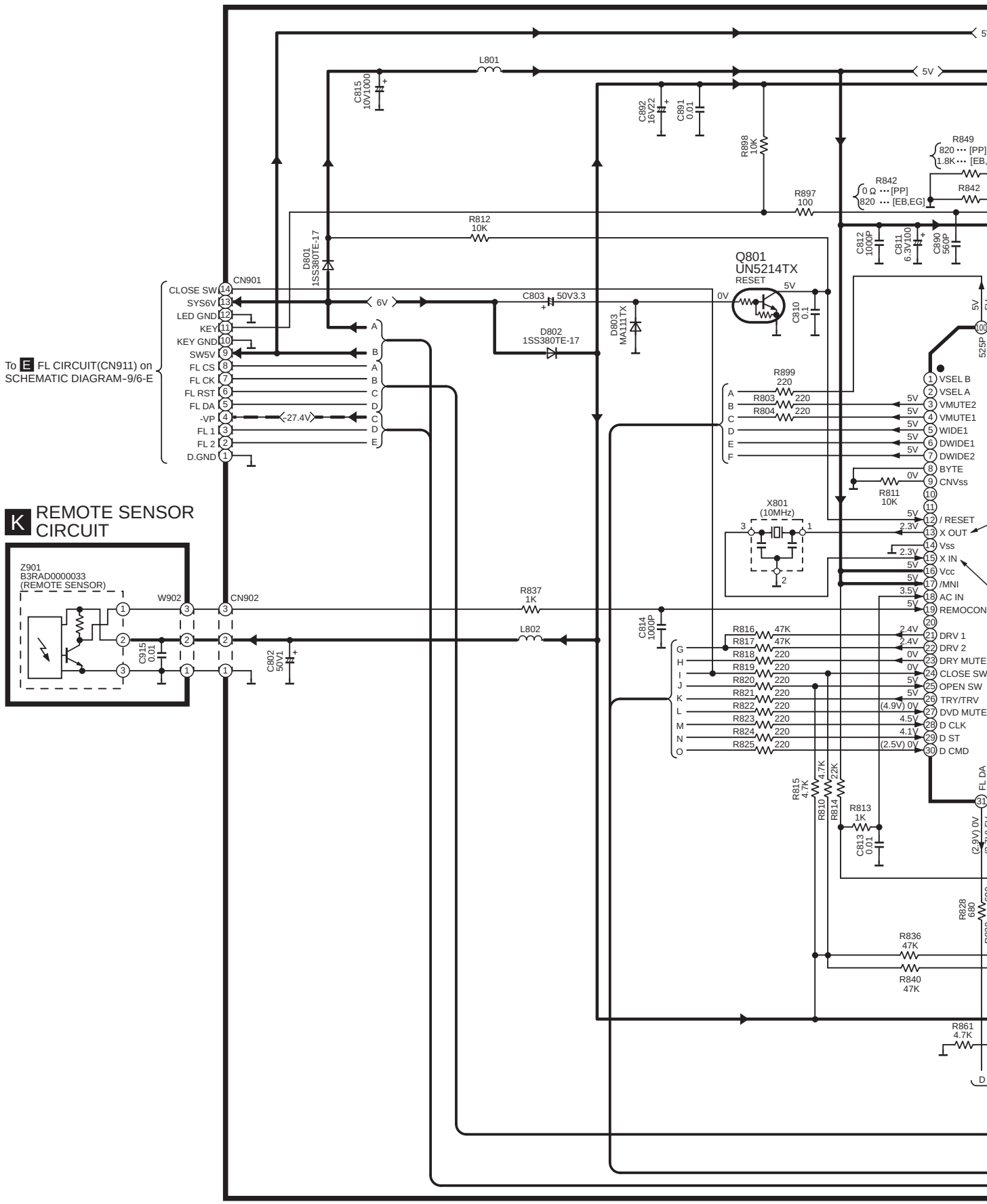


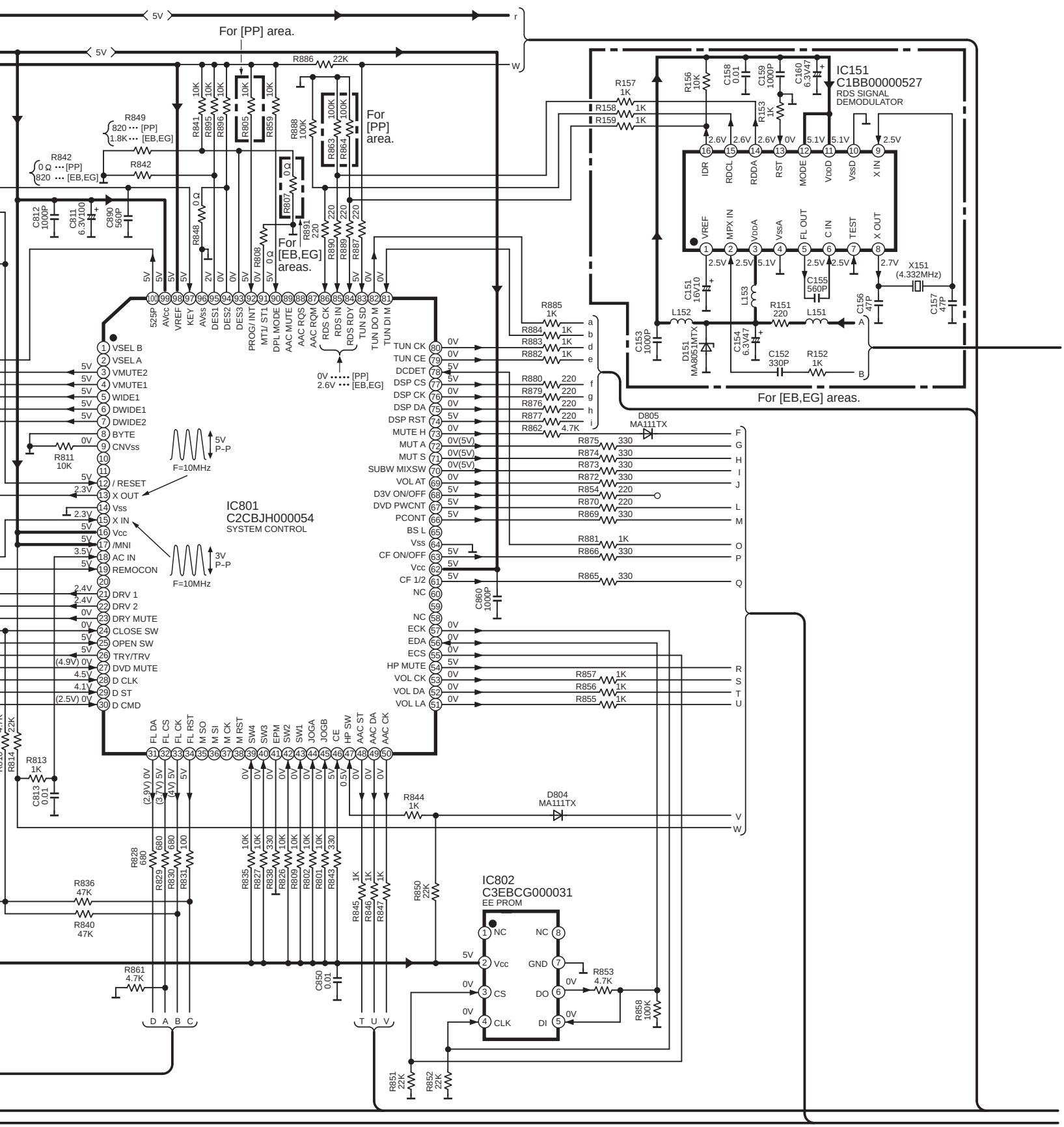

H SENSOR(LOWER) CIRCUIT
I SENSOR(UPPER) CIRCUIT
G MOTOR CIRCUIT
IC903
B3NAB0000020
PHOTO INTERRUPTER
IC904
B3NAB0000020
PHOTO INTERRUPTER
WA907
WB907
1.2V
0.1V
2.4V
M901
(LOADING MOTOR)
C916
0.01
WB903
WA903
CN906
W906
R932
120
A
B
To J MAIN CIRCUIT (CN901) on SCHEMATIC DIAGRAM–10/1,2-F
CLOSE SW
SYS6V
LED GND
KEY
KEY GND
SW5V
FL CS
FL CK
FL RST
FL DA
-VP
FL 1
FL 2
D.GND
To A INTERFACE CIRCUIT(CN2501) on SCHEMATIC DIAGRAM–1/11-A
W2501
LOADM+
LOADM–
OPEN SW
SW5V
CLOSE SW
Vcc +5V
GND
LD +5V
S913
(OPEN DET.)
S915
(LASER ON/OFF)
5V
C918
0.1
R935
1K
S914
(CLOSE DET.)
C917
0.1
R929
4.7K
IC902
TC74HC00AFT1
INTERFACE
5V
0V
Vcc
GND
0.1V
R934
1K
R933
1K
R930
47K
R931
68K
F DETECTING SW CIRCUIT

SCHEMATIC DIAGRAM–10

J MAIN CIRCUIT

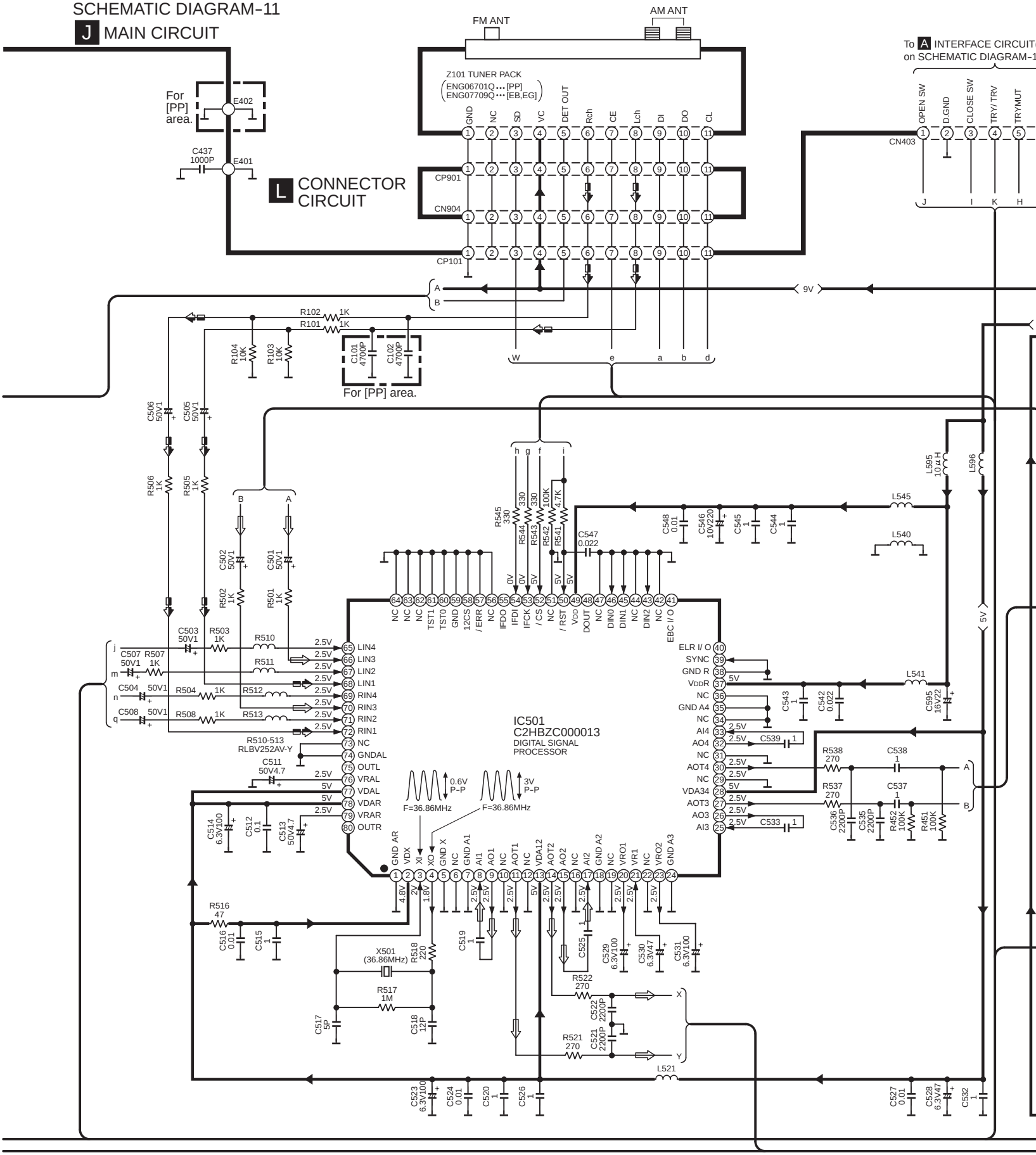
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE

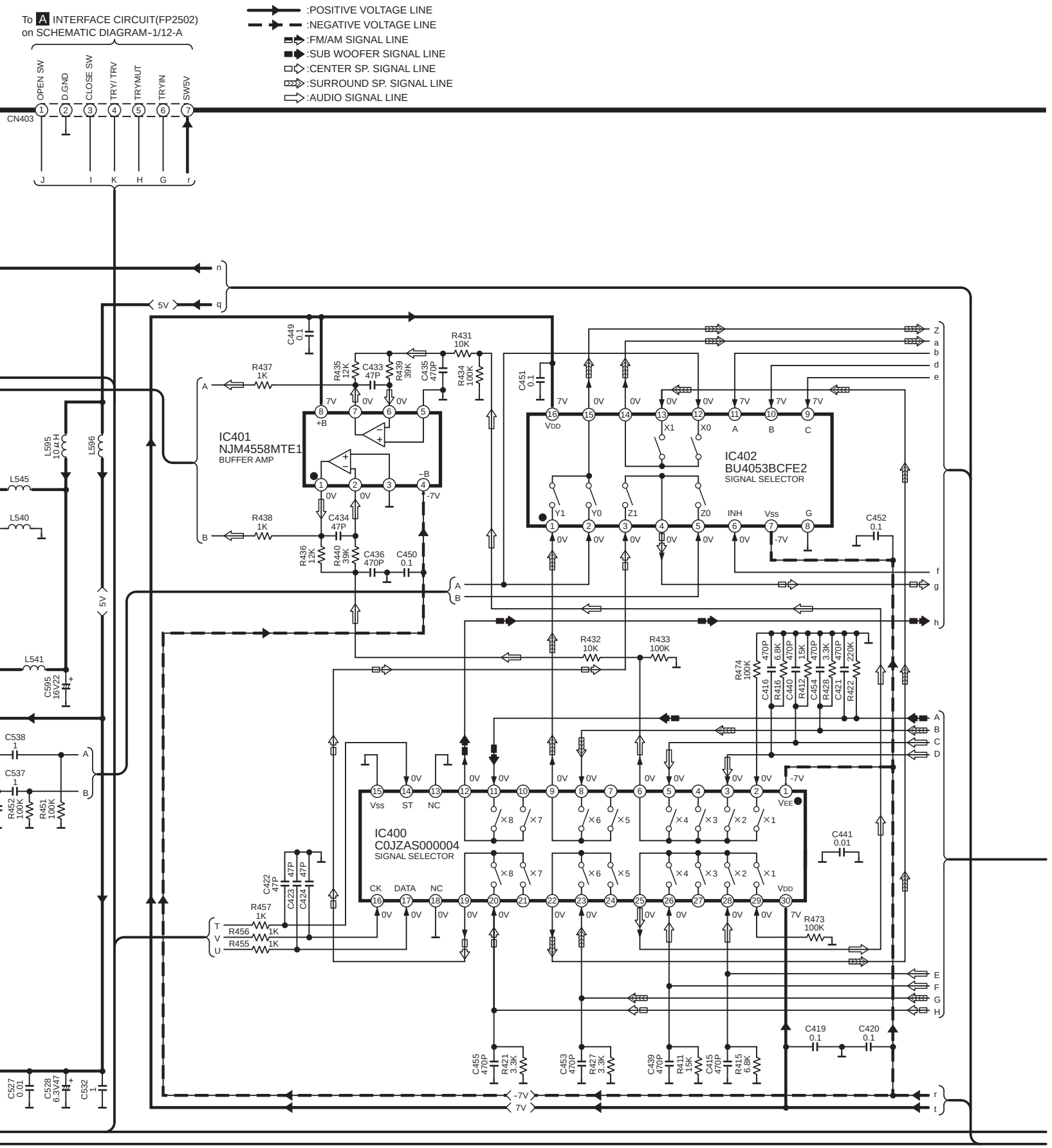


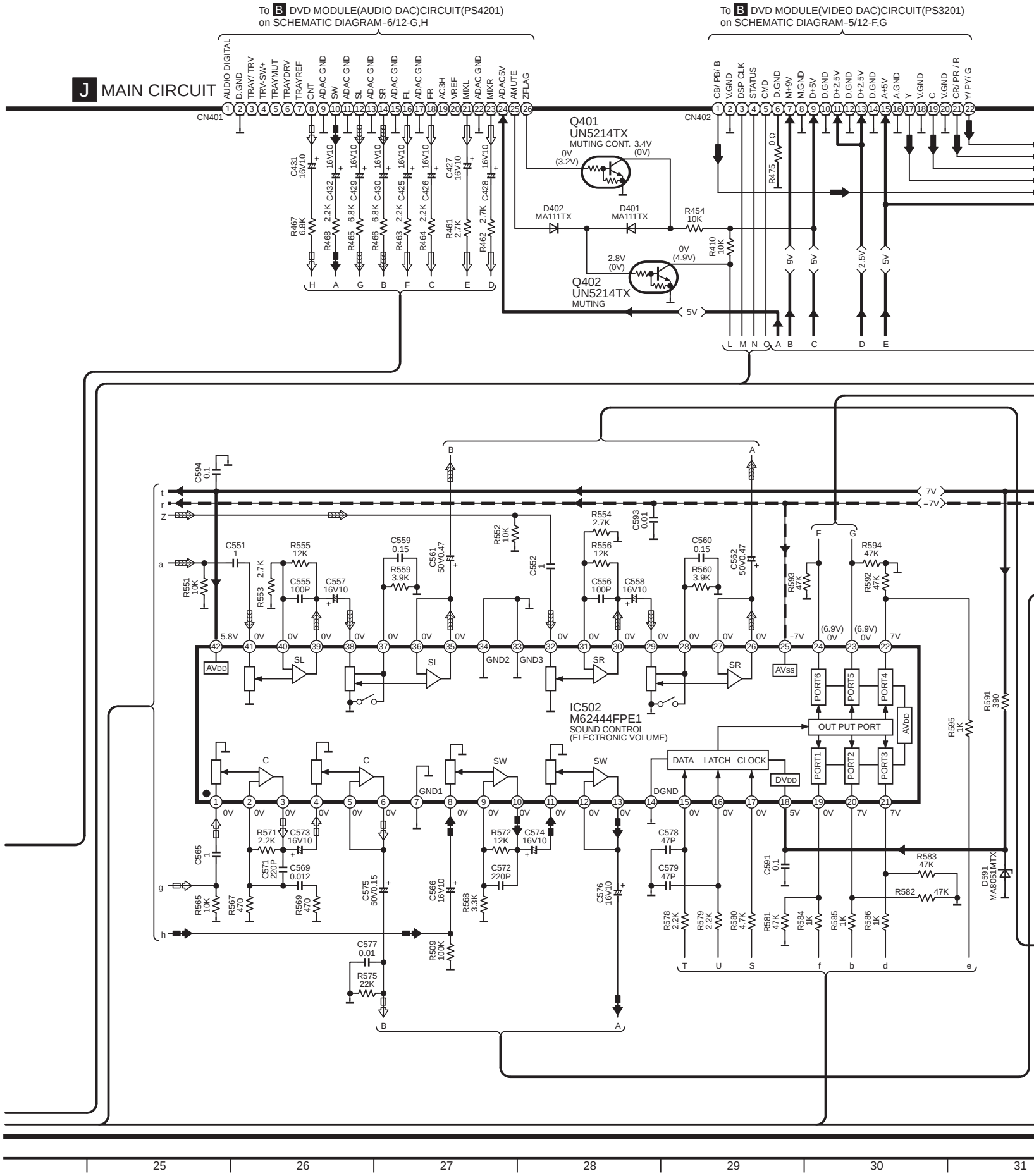

For [PP] area.
For [PP] area.
For [EB,EG] areas.
For [EB,EG] areas.
IC151
C1BB00000527
RDS SIGNAL DEMODULATOR
IC801
C2CBJH000054
SYSTEM CONTROL
IC802
C3EBCG000031
EE PROM
X151
(4.332MHz)
D805
MA111TX
D804
MA111TX
D151
MA8051MTX
F=10MHz
F=10MHz

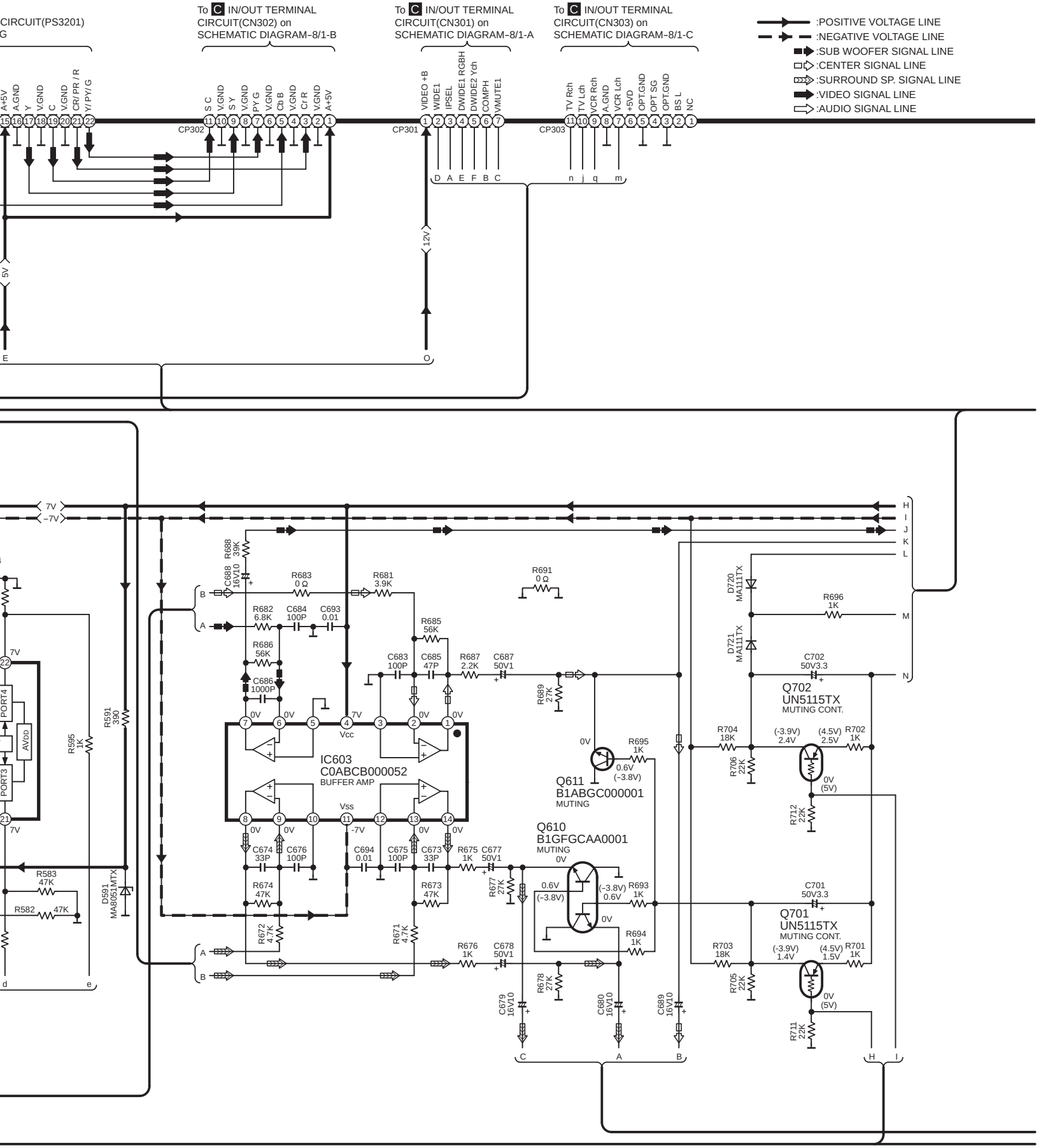
SCHEMATIC DIAGRAM–11

J MAIN CIRCUIT




To A INTERFACE CIRCUIT(FP2502)
on SCHEMATIC DIAGRAM–1/12-A
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:FM/AM SIGNAL LINE
:SUB WOOFER SIGNAL LINE
:CENTER SP. SIGNAL LINE
:SURROUND SP. SIGNAL LINE
:AUDIO SIGNAL LINE
CN403
OPEN SW
D.GND
CLOSE SW
TRY/ TRV
TRYMUT
TRYIN
SW5V
IC401
NJM4558MTE1
BUFFER AMP
IC402
BU4053BCFE2
SIGNAL SELECTOR
IC400
C0JZAS000004
SIGNAL SELECTOR
5V
-7V
7V


To B DVD MODULE(AUDIO DAC)CIRCUIT(PS4201) on SCHEMATIC DIAGRAM–6/12-G,H
To B DVD MODULE(VIDEO DAC)CIRCUIT(PS3201) on SCHEMATIC DIAGRAM–5/12-F,G
J MAIN CIRCUIT
CN401
CN402
AUDIO DIGITAL
D.GND
TRAY/ TRV
TRV-SW+
TRAYMUT
TRAYDRV
TRAYREF
CNT
ADAC GND
SW
SL
SR
FL
FR
AC3H
VREF
MIXL
MIXR
ADAC5V
AMUTE
ZFLAG
CB/ PB/ B
V.GND
DSP CLK
STATUS
CMD
M+9V
M.GND
D+5V
D+2.5V
A+5V
A.GND
Y
C
CR/ PR / R
Y/ PY/ G
Q401
UN5214TX
MUTING CONT.
Q402
UN5214TX
MUTING
D402
MA111TX
D401
MA111TX
IC502
M62444FPE1
SOUND CONTROL
(ELECTRONIC VOLUME)
OUT PUT PORT
DATA LATCH CLOCK
AVDD
AVSS
DVDD
DGND
GND1
GND2
GND3
SL
SR
SW
PORT1
PORT2
PORT3
PORT4
PORT5
PORT6
D591
MA8051MTX

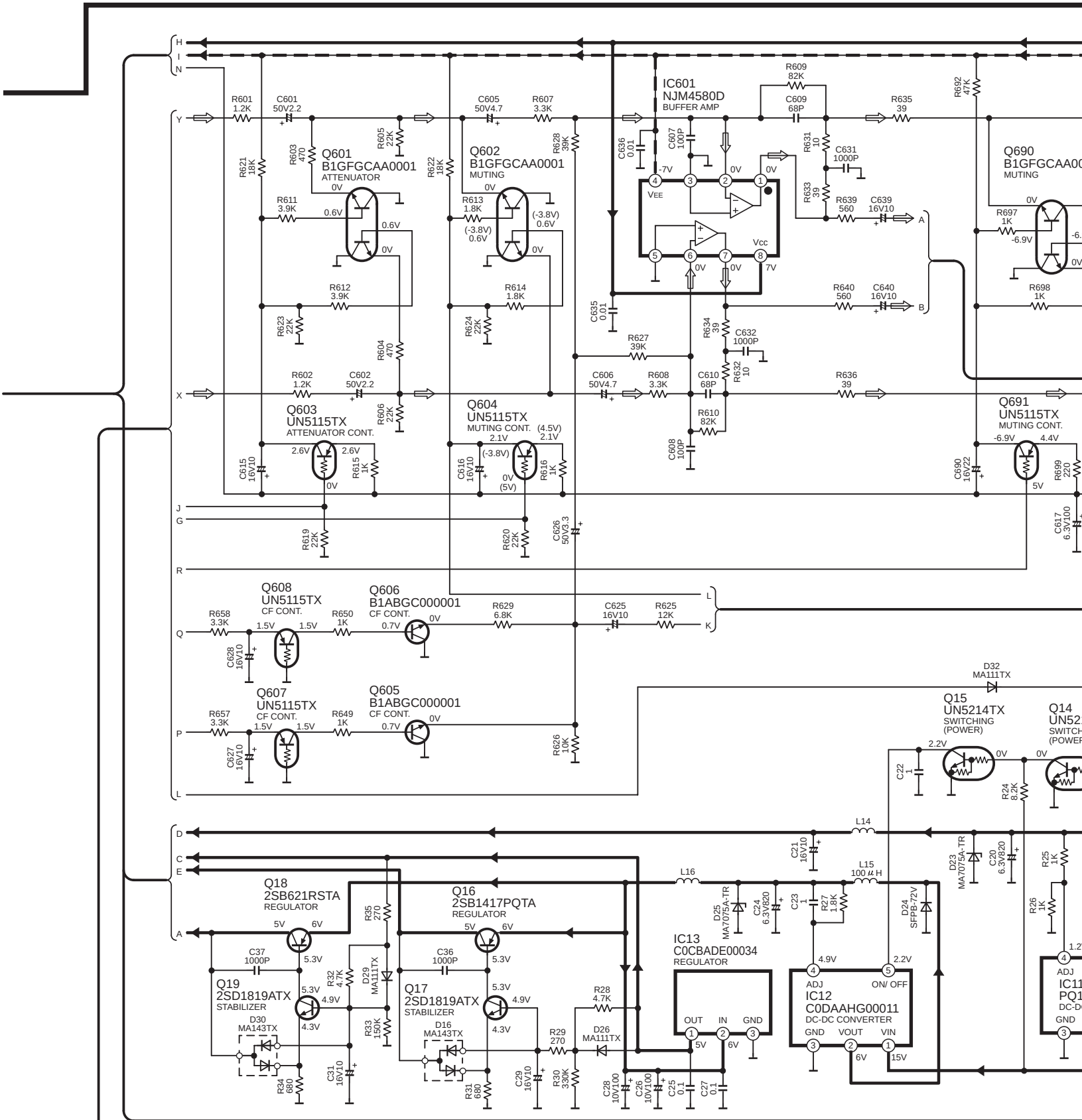


SA-ST1(PP,EB,EG) MAIN CIRCUIT DIAGRAM

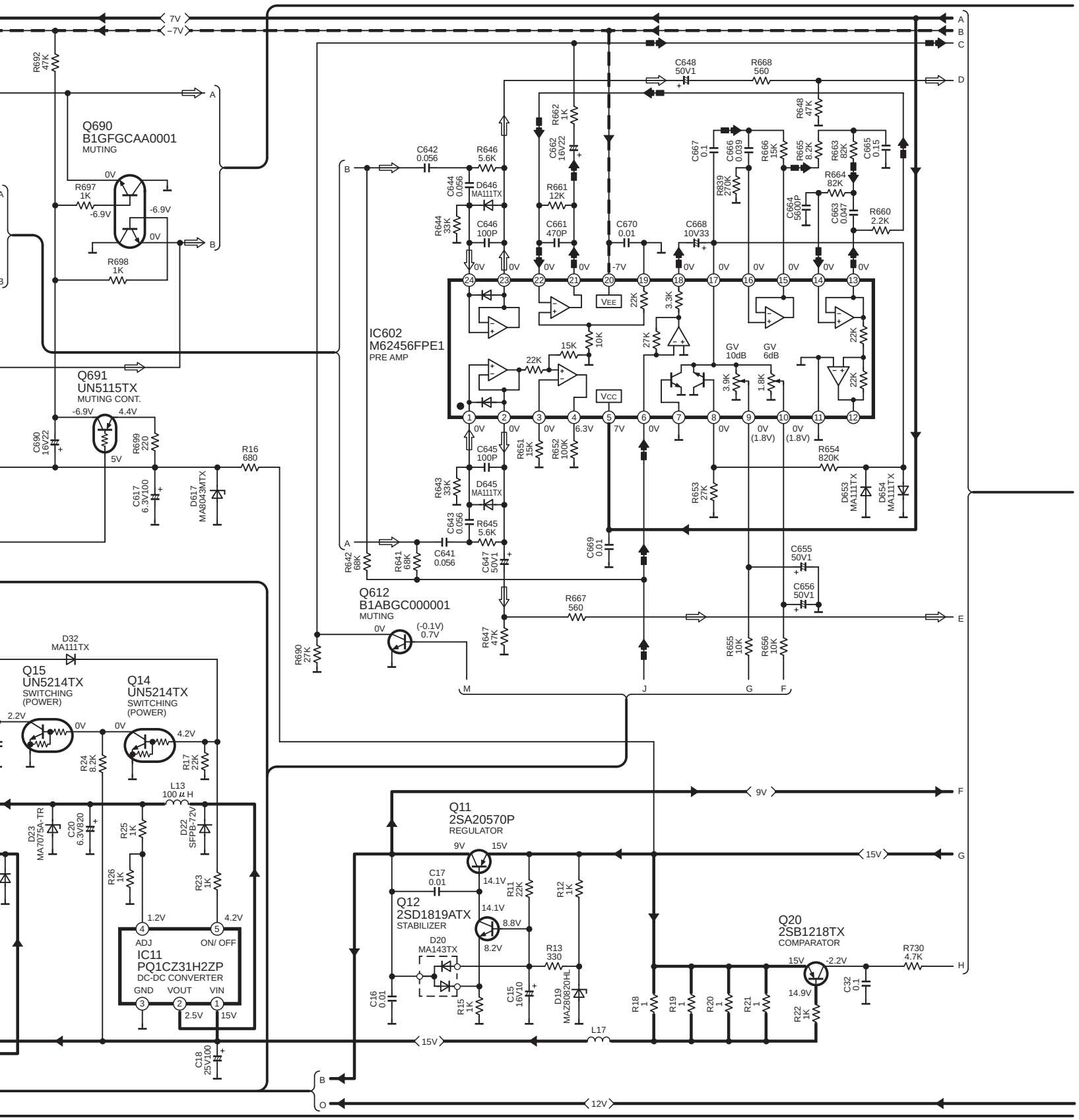
SCHEMATIC DIAGRAM–13

J MAIN CIRCUIT

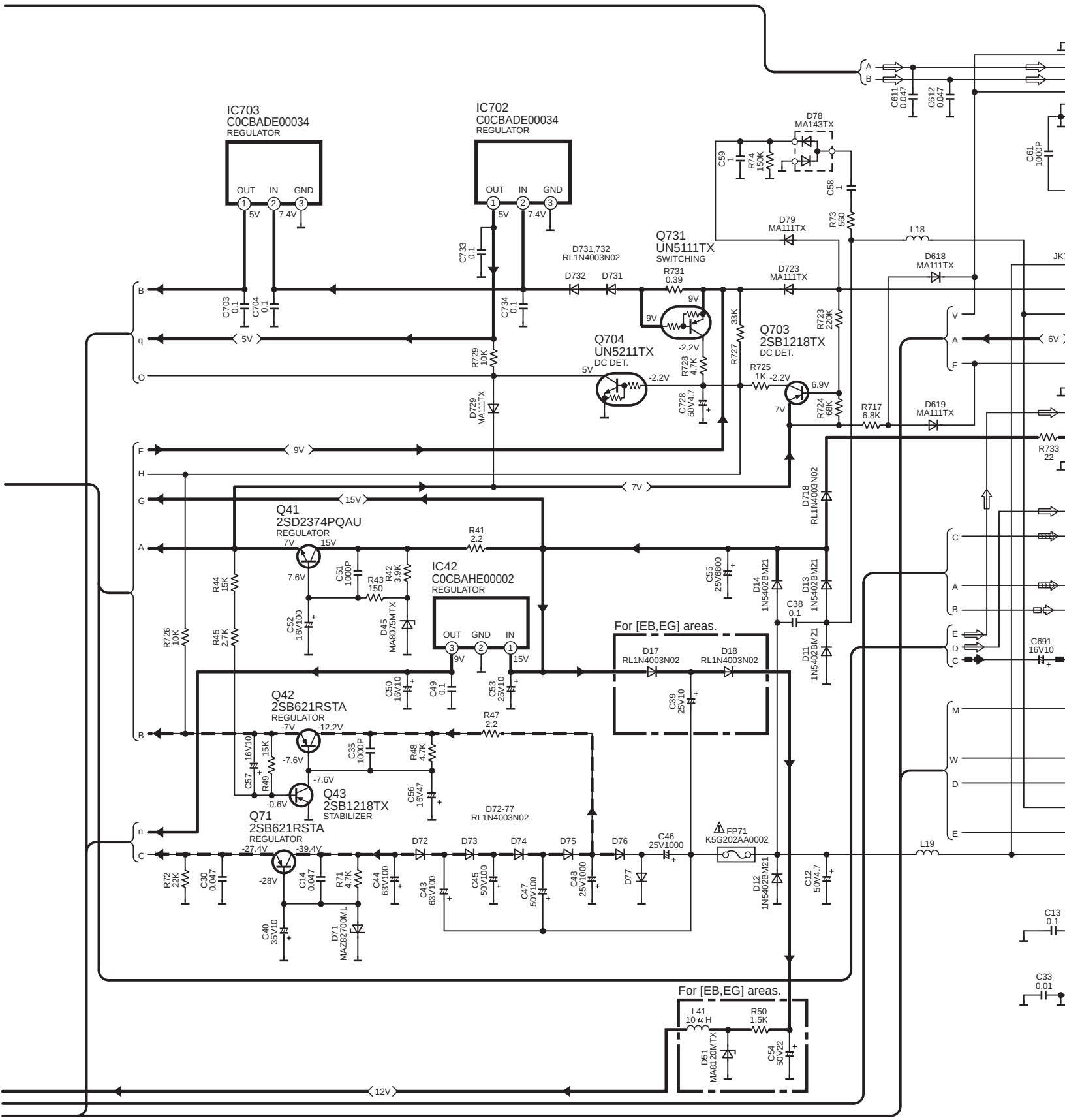
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE :SUB WOOFER S

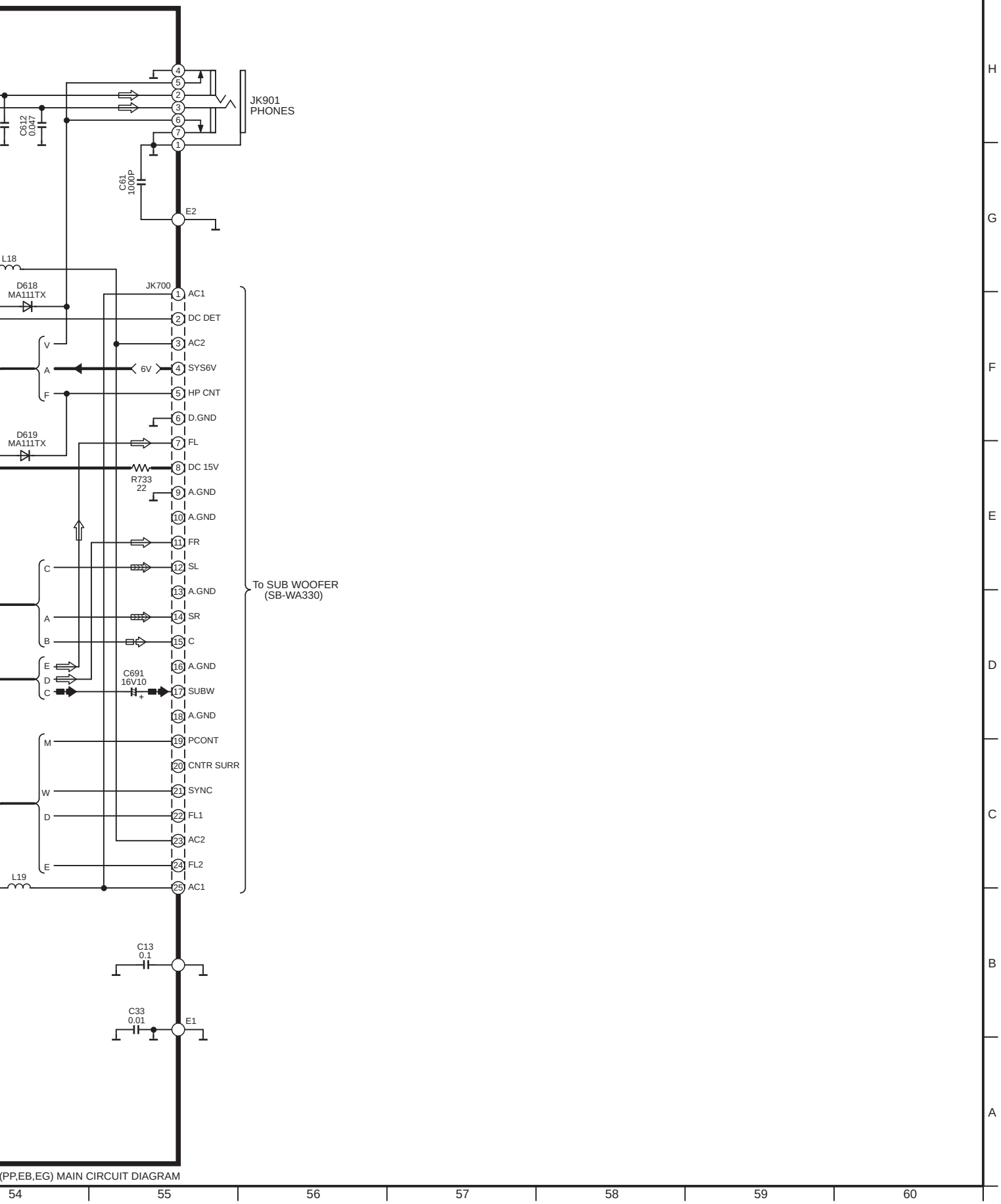


NAL LINE ■▶:SUB WOOFER SIGNAL LINE

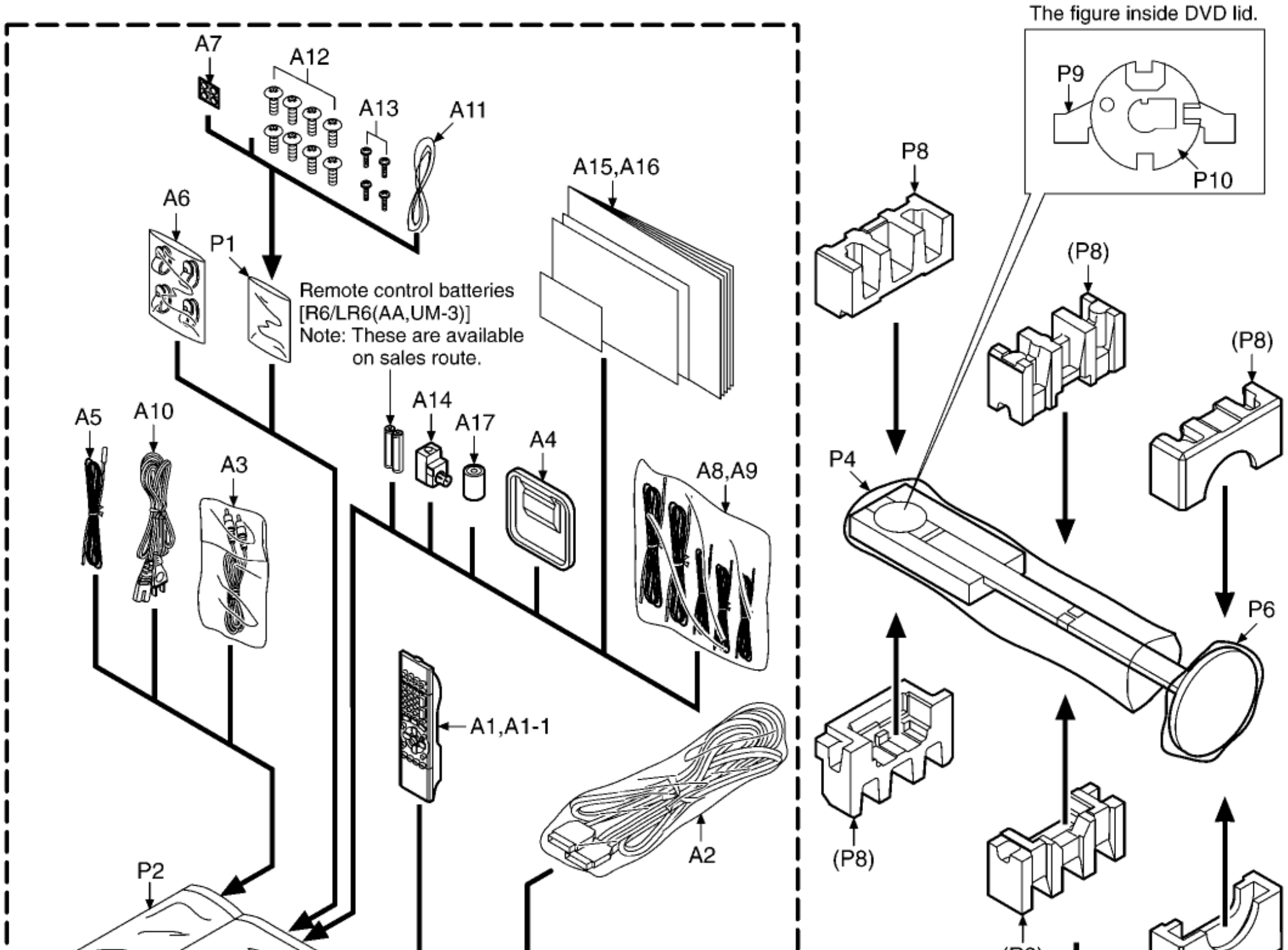


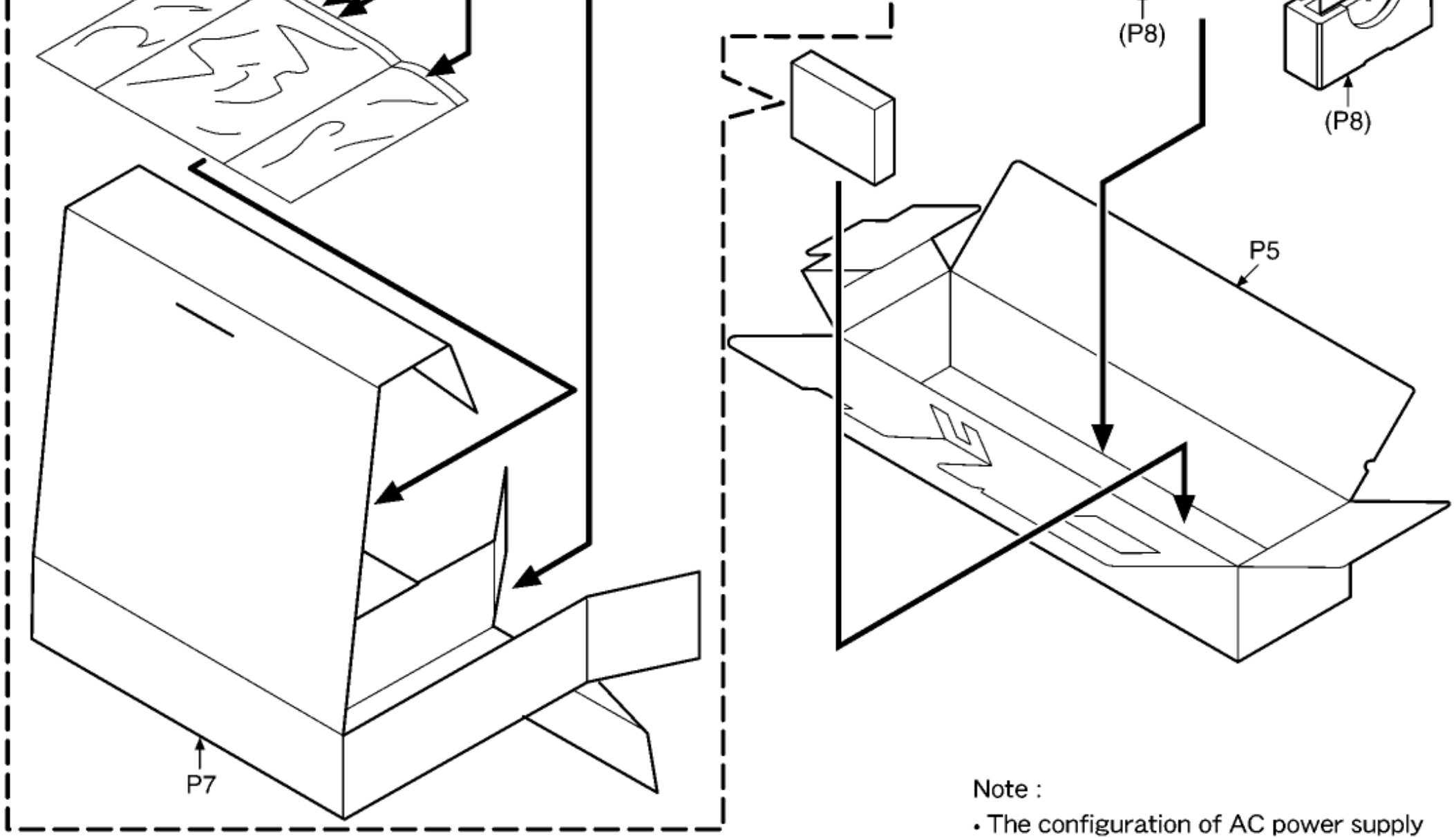
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :SURROUND SP. SIGNAL LINE :AUDIO SIGNAL LINE :SUB WOOFER SIGNAL LINE :CENTER SP. SIGNAL LINE





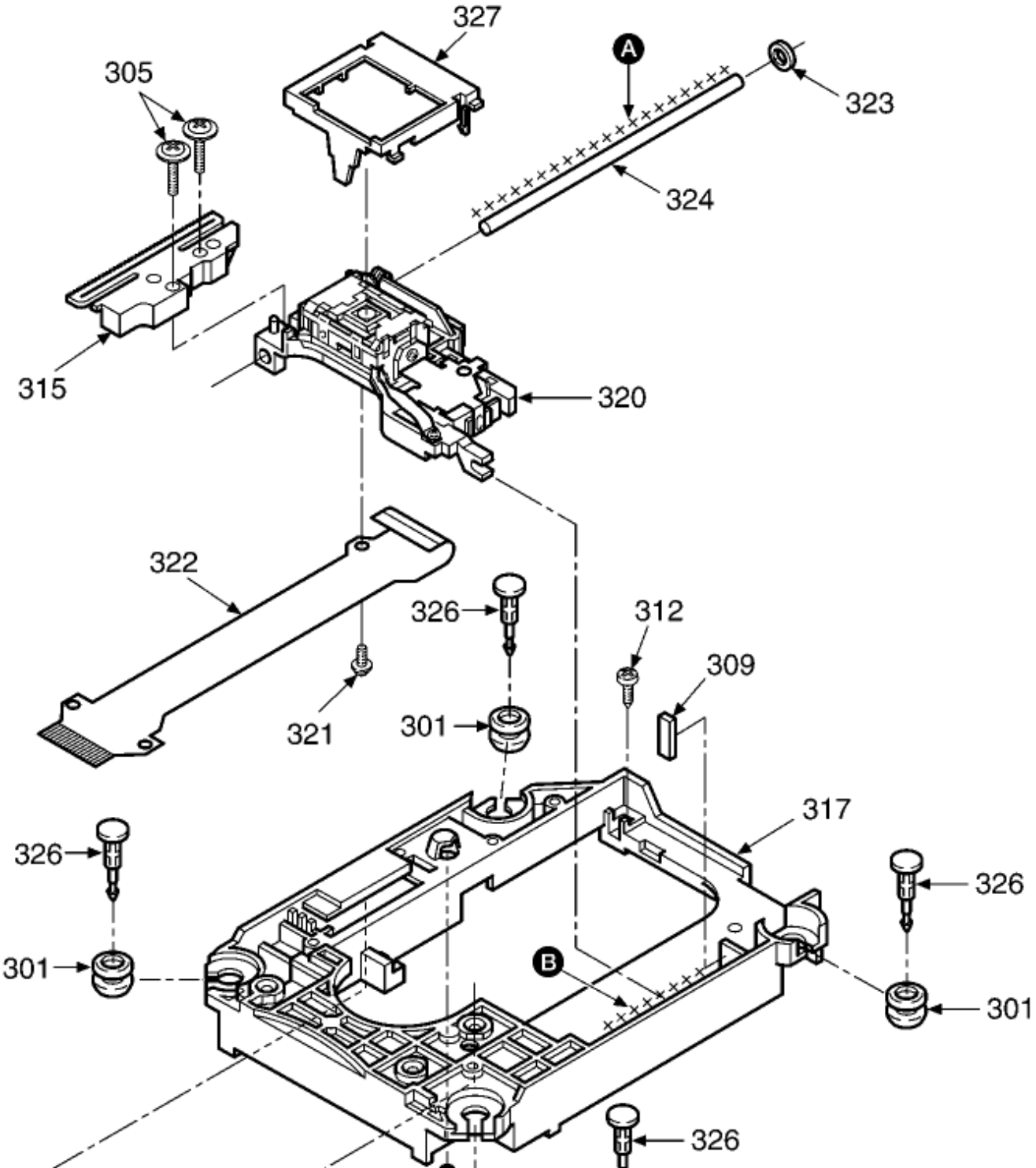
(PP,EB,EG) MAIN CIRCUIT DIAGRAM

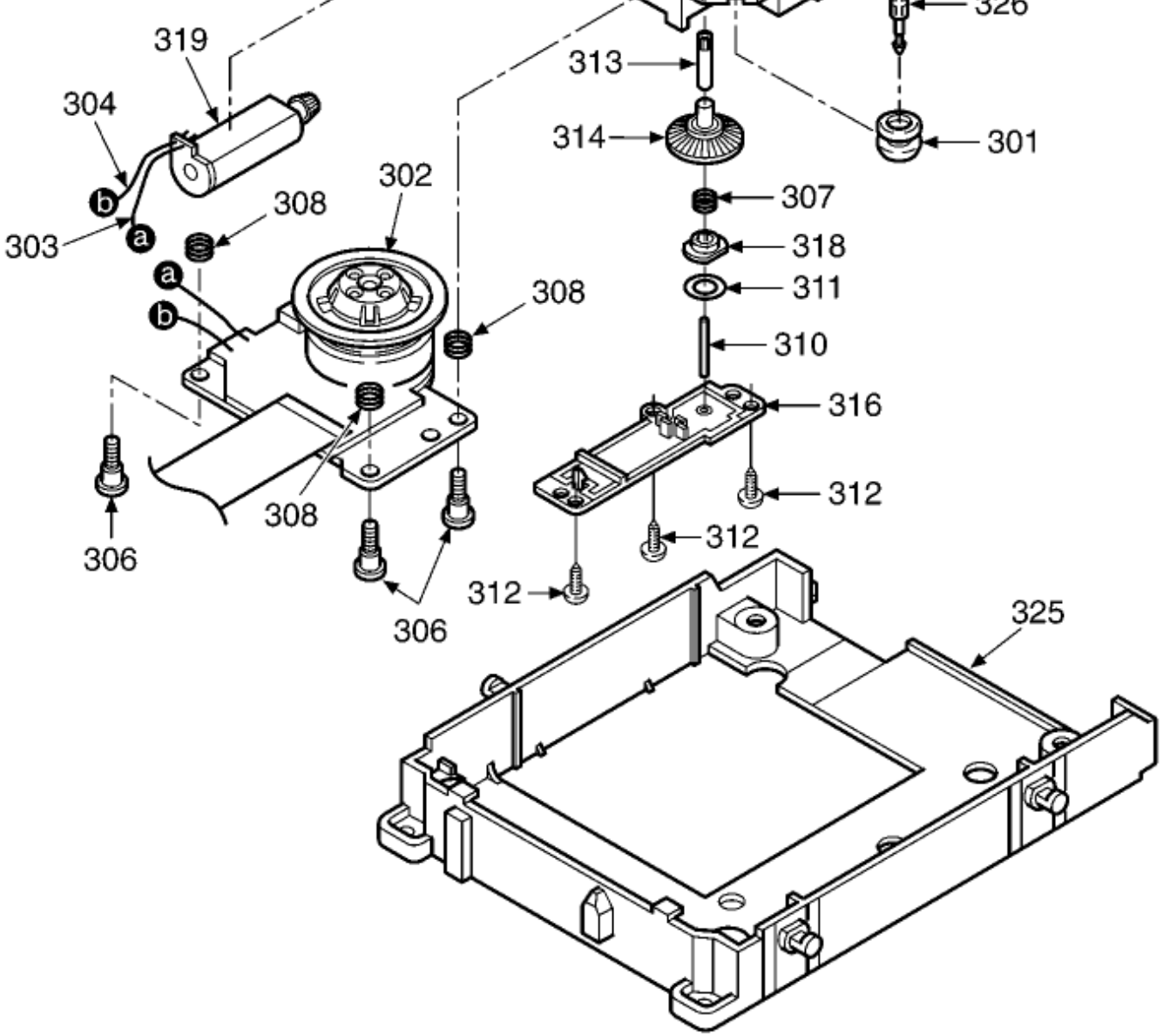

A7
A12
A13
A11
A15,A16
A6
P1
Remote control batteries
[R6/LR6(AA,UM-3)]
Note: These are available
on sales route.
A5
A10
A3
A14
A17
A4
A8,A9
A1,A1-1
A2
P2
The figure inside DVD lid.
P9
P10
P8
(P8)
(P8)
P4
P6
(P8)

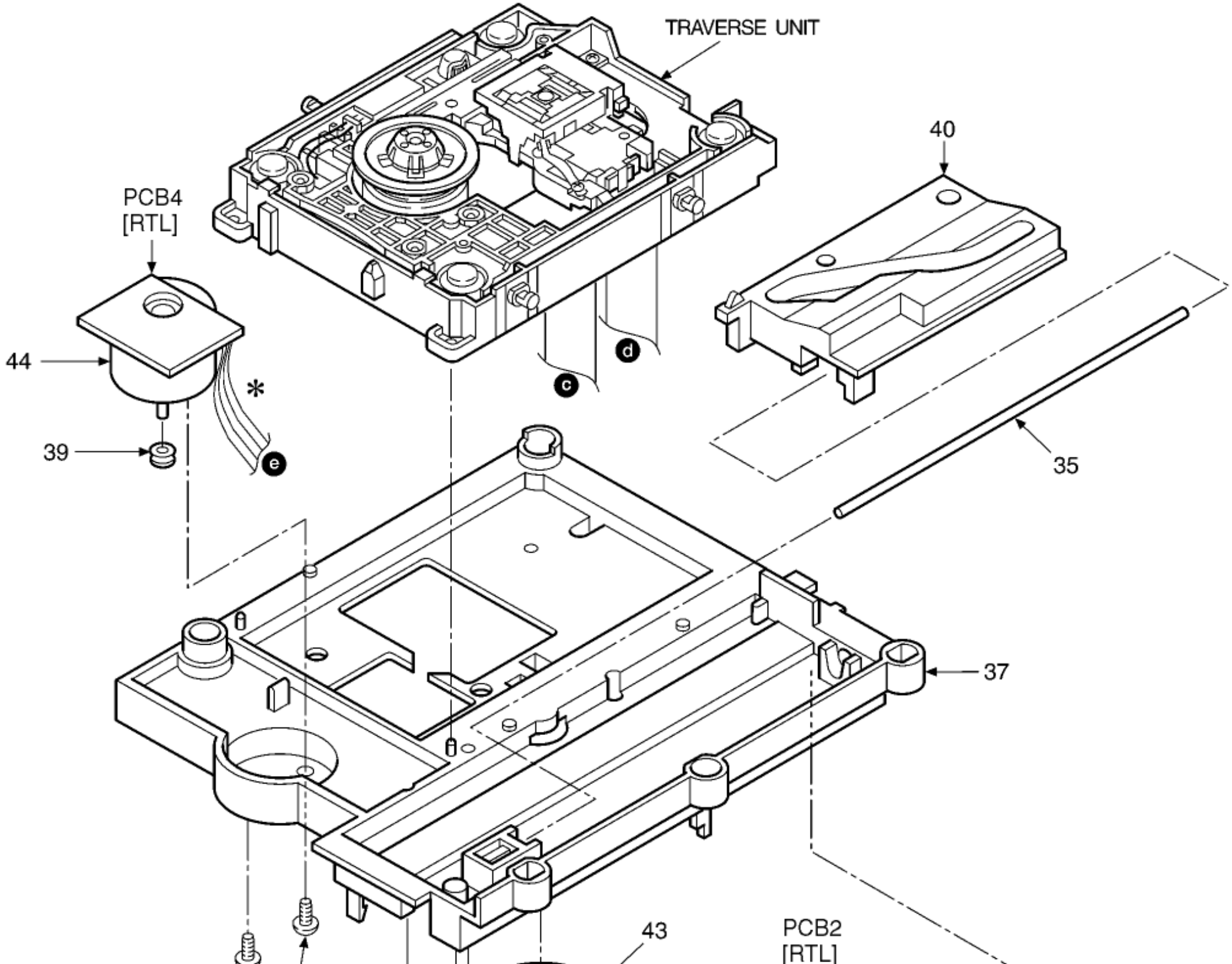


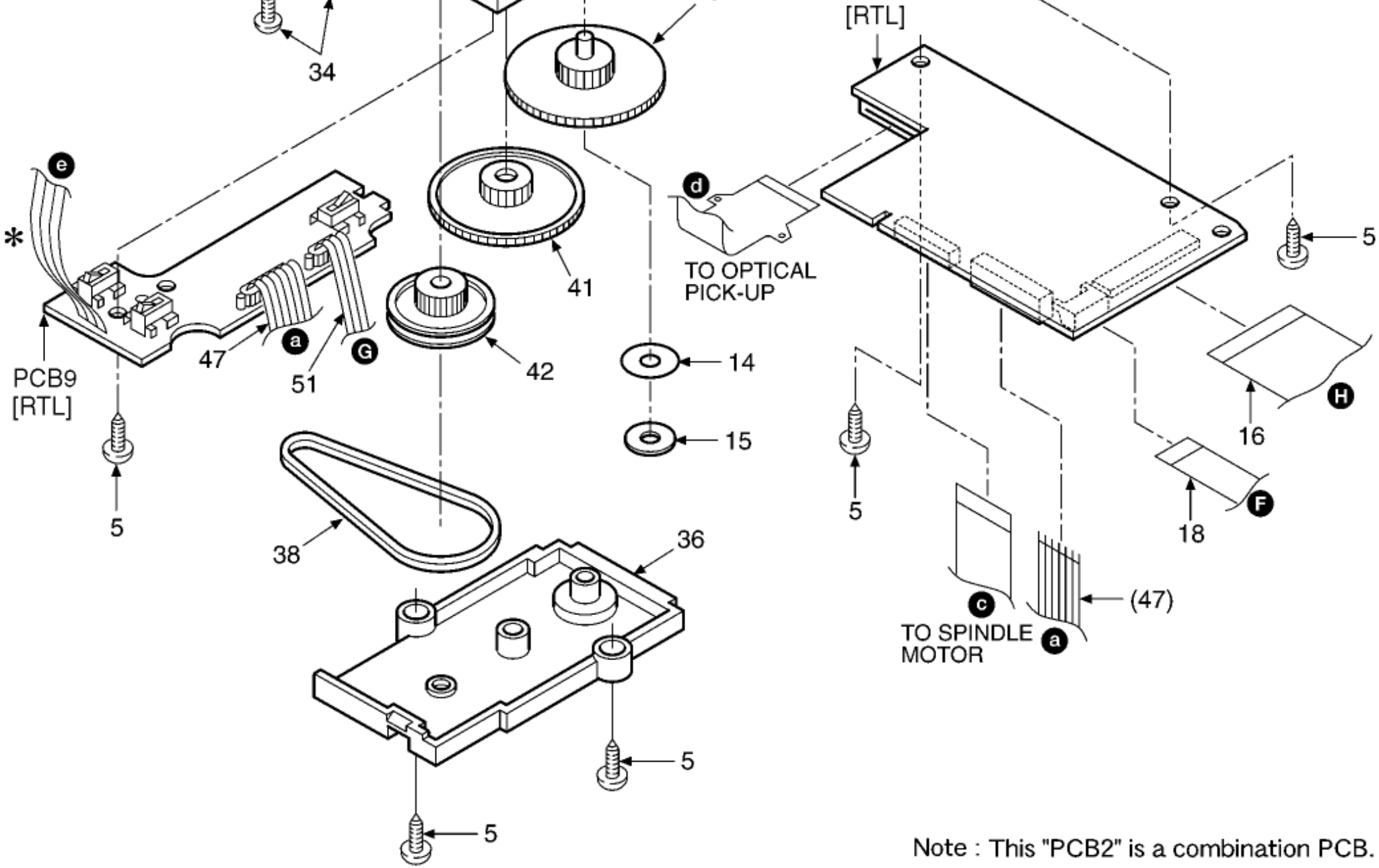
Note :

- The configuration of AC power supply cord depends on the area.

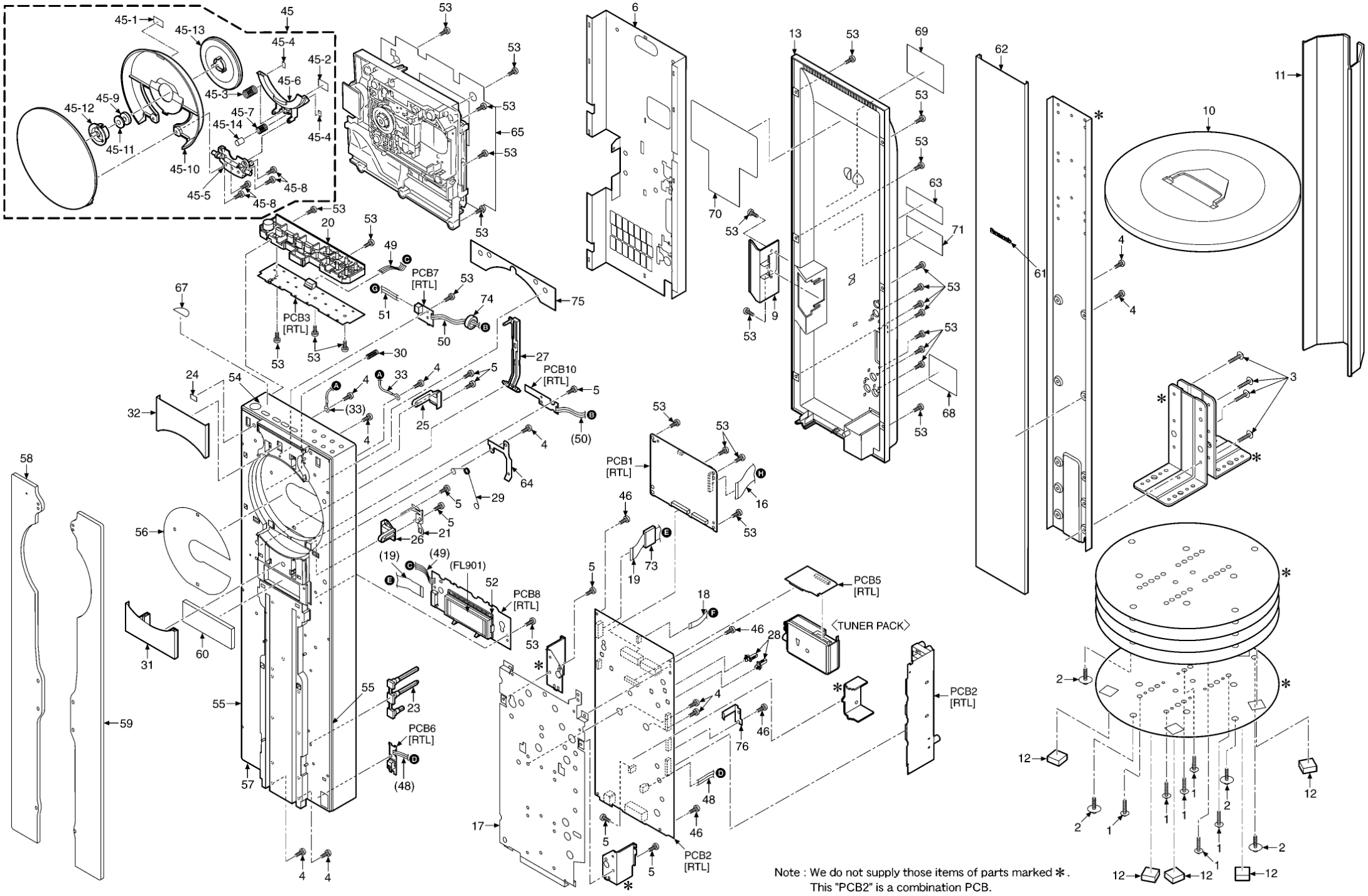

327
305
A
323
324
315
320
322
326
312
309
321
301
317
326
326
301
B
301
326


319
304
303
b
a
308
302
308
a
b
308
306
308
306
313
314
326
301
307
318
311
310
316
312
312
312
325


TRAVERSE UNIT
40
PCB4
[RTL]
44
39
*
e
c
d
35
37
43
PCB2
[RTL]



Note : This "PCB2" is a combination PCB.



Note : We do not supply those items of parts marked ✻.
This "PCB2" is a combination PCB.

● DVD/CD PLAYER SECTION

AN22030A-VT
IC5201
FRONT END PROCESSOR

OPTICAL PICK-UP UNIT

PHOTO DETECTOR

B1 B2 A1 A2 A4 A3 B4 B3

HEAD AMP

LASER DIODE

LASER DIODE

Q5111 LASER P.DRIVE

Q5115 LASER P.DRIVE

LPC AMP

A+5V

S915

A+5V

D5131

QR5221

POWER SUPPLY D+3.3V

HFMON

57 MONI
10 MONI2
MONI

ADD
ADD

53 VIN7
54 VIN8
58 VIN1
59 VIN2
60 VIN3
61 VIN4
51 VIN5
52 VIN6
62 VIN9
63 VIN10

AMP

EQ
HPF COMP
DEFFERENTIAL PHASE DET.

NW DET.
LEVEL CONT.

TBAL
FBAL

2 LPCO1
1 LPC1
4 LPCO2
3 LPC2
44 CRFHP1
45 CRFHP2

L.P.F.

46 RFINP
47 RFINN
43 TESTSG
TSTSG

DPDOFT DET.
LEVEL CONT.

24 SHOLD
41 SHORT
23 DTRD
VFOSHORT
DTRD

REG-LOGIC

MIRROR DET.
BDO DET.
LEVEL CONT.
LEVEL CONT.

ENV DET.

AGC CONT.
FC CONT.
BOOST CONT.
EQ
VGA
GD CONT.

48 PEAK

HOLD

TE FLT

S LINE

Q2001
RF AMP
A+5V

CRnet.

RFTE 12
RFENV 49
TE FLT 9
TE 11
FS 13
RSCL 27
FE 14
TBAL 8
FBAL 7

DCFLT 36
BDO 22
FLTOP 34
FLTON 35
SAG 37
OFTR 21
AGCG2 39
AGCG1 38
BDOSL 29
MIRSL 30

Q5271 SWITCH-ING

98 RFDIF
96 HPFIN
95 HPFOUT
92 LPFOUT
93 LPFIN
120 AD3
4,19,32, 60,77,81, 126,144, 155,163,170 VSS
118 AD1
119 AD2
117 AD0
65 TBAL
66 FBAL
85,94, 102,113 AVSS
52 BDO
111 ARF
110 NARF
51 OFTR
104 VREF2
75 IDGT
83 VFOSHORT
74 DTRD

1 A 2 B
5 Vcc
3 GND
C 4

C0JBAS000116
IC2101
LOGIC CONTROL

IDGT 42
STANBY 17
SCK 19
SEN 18
STDIO 20
POFLT 5
VHALF 15
VREF 55
RBCA 32
VREFRF 56
DCAGC 31
GND 64
GND2 28
VSS 16
Vcc1 50
Vcc2 33
VDD 25

A+5V
D+3.3V

IDGT
NRST
FEPCLK
FEPENB
FEPDATA
VHALF
VREF2
DCFLT
VREF2
IDGT
VFOSHORT
DTRD

MN103S26EGA
IC2001
OPTICAL DISC CONTROL

149,151,158,160, 164,166,168,172 HDD8~15
3,31,57, 78,125,143, 156,162,169 VDD3 D+3.3V
88,99, 109,116 AVDD D+3.3V
174 VDDH D+3.3V
106 VHALF
18,76, 152 VDD18 D+1.8V
67 TRSDRV
114 DAC0
20,58 DRAMVDD18 D+1.8V
33 DRAMVDD33 D+3.3V
71 TILT
115 DAC1
70 TIL TP MUTE3
47 NRST NRST
6 WAITODC WAIT
68 SPDRV SPDRV
69 FG FG

TSTSG 82
PWM1 53
PWM2 54
PWM3 55
9~17, 22~30 CPUADR0~17
37~44 CPUDT0~7
35 NWR
36 NRD
79 OSCI1
21 DRAMVSS

TSTSG
FEPDATA
FEPCLK
FEPENB
CPUADR0~17
CPUDT0~7
NWEL
NRD
CLK16M

C0GBG0000033
IC2521
TRAVERSE MOTOR, FOCUS/TRACKING COIL DRIVE

M+9V
D+5V
D2521
VCC
PREVCC
LEVEL SHIFT
ROADING MOTOR
TRAVERSE MOTOR
OPTICAL PICKUP UNIT
TRACKING COIL
FOCUS COIL
TRIN
BIAS1
OPIN-
OPIN+
VIN3
OPOUT
VIN1
LDIN
BIAS2
SW5V
MUTE3
CH3 MUTE
MUTE12
CH1,2 MUTE
VIN2
LDCNT
MUTE4
GND
VO4+
VO4-
VO3+
VO3-
VO1+
VO1-
VO2+
VO2-
VHALF

C0GBF0000004
IC2501
SPINDLE MOTOR DRIVE

M+9V
RNF
VM
GSW
GAIN SWITCH
TSD
DRIVER
GAIN CONTROL
CURRENT SENSE AMP
TL
SPINDLE MOTOR
A3
A2
A1
MUTE3
PS
FG2
SPDRV
EC
TORQUE SENSE AMP
VHALF
ECR
FG
FR
SB
SHORT BRAKE
BR
BRAKE MODE
VH
HALL BIAS
HALL AMP
GND
H1+
H1-
H2+
H2-
H3+
H3-
HALL 1
HALL 2
HALL 3
D+5V

C0DBCGE00002
IC6253
REGULATOR
D+5V
D+3.3V
C0DBEZG00011
IC6251
REGULATOR
D+2.5V
C0DBFFG00004
IC6252
REGULATOR
D+2.5V
D+1.8V

C3ABPG000121
IC3061
MEMORY
C3ABPG000121
IC3062
MEMORY
VDD
VDDQ
A0~11
DQ0~15
LDQM
/RAS
/CAS
/WE
/CS
CLK
VSS
VSSQ

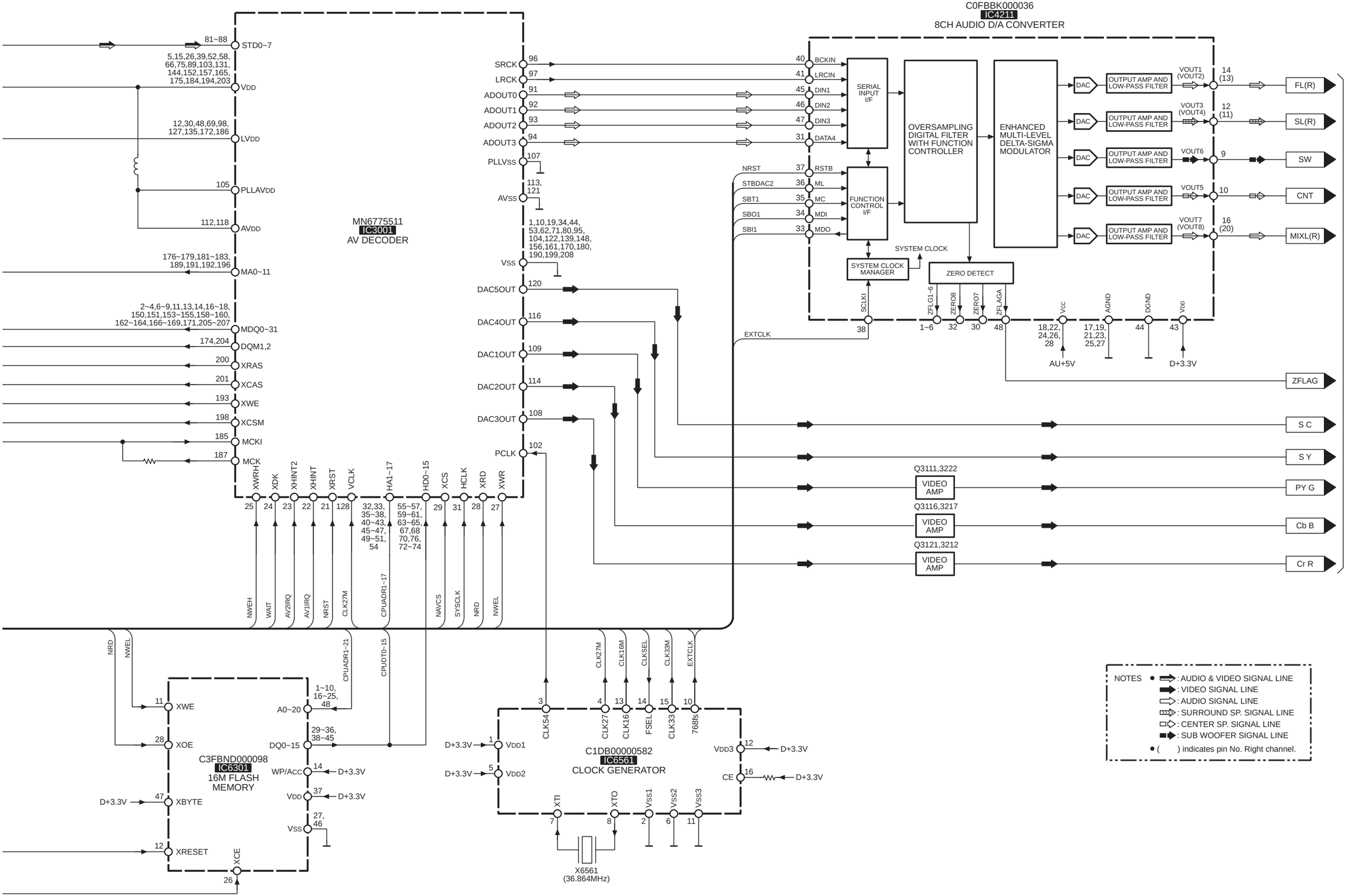
TRYMUT
TRY TRV
TRYIN
(From Main Section)

C3EBGC000033
IC6221
EE PROM
VCC
GND
SDA
SCL
Q6215
RESET
NRST

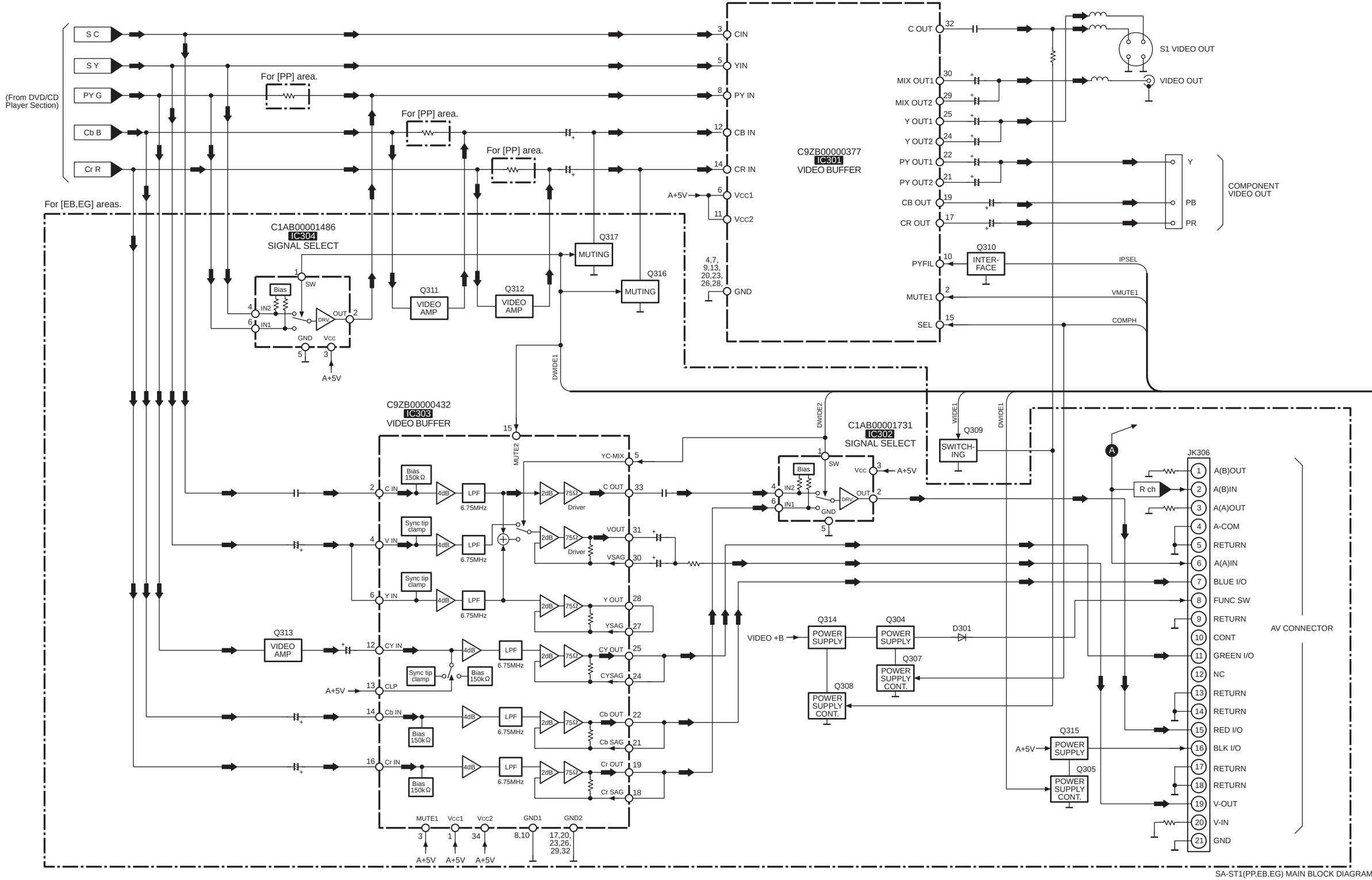
HFMON
DCFLT
RAS
NWORD

MN102H60GFD
IC6201
CPU

AV2IRQ
AV1IRQ
STBDAC2
NWEH
NAVCS
SYSCLK
NRD
NWEL
WAIT
SBT1
SBO1
SBI1
CLK33M
EXTCK
CLKSEL
CPUDT0~15
CPUADR0~21
SBO4
SBT4
P56
NIRQ3
NIRQ2
LCAS
NWEH
NCS2
BOSC
NRE
NWEL
WAIT
SBT1
SBO1
SBI1
OSCI
EXTCK
NBRACK
D0~15
A0~21
NBREQ
SBI3
SBT3
SBO3
AMUT
CMD
DSPCLK
STATUS
(To Main Section)
C0JBAA000001
IC6223
AND GATE
C0JBAA000001
IC6222
AND GATE
VDD
AVDD
VREF+
VREF-
VSS
AVSS
NCS3
NRST
PST596JNR
IC6211
RESET


MN6775511
IC3001
AV DECODER
81~88
STD0~7
5,15,26,39,52,58,
66,75,89,103,131,
144,152,157,165,
175,184,194,203
VDD
12,30,48,69,98,
127,135,172,186
LVDD
105
PLLAVDD
112,118
AVDD
176~179,181~183,
189,191,192,196
MA0~11
2~4,6~9,11,13,14,16~18,
150,151,153~155,158~160,
162~164,166~169,171,205~207
MDQ0~31
174,204
DQM1,2
200
XRAS
201
XCAS
193
XWE
198
XCSM
185
MCKI
187
MCK
SRCK
LRCK
ADOUT0
ADOUT1
ADOUT2
ADOUT3
PLLVSS
AVSS
VSS
DAC5OUT
DAC4OUT
DAC1OUT
DAC2OUT
DAC3OUT
PCLK
XWRH
XDK
XHINT2
XHINT
XRST
VCLK
HA1~17
HD0~15
XCS
HCLK
XRD
XWR
NWEH
WAIT
AV2IRQ
AV1IRQ
NRST
CLK27M
CPUADR1~17
NAVCS
SYSCLK
NRD
NWEL
CPUADR1~21
CPUDT0~15
C0FBBK000036
IC4211
8CH AUDIO D/A CONVERTER
BCKIN
LRCIN
DIN1
DIN2
DIN3
DATA4
RSTB
ML
MC
MDI
MDO
NRST
STBDAC2
SBT1
SBO1
SBI1
SERIAL INPUT I/F
FUNCTION CONTROL I/F
OVERSAMPLING DIGITAL FILTER WITH FUNCTION CONTROLLER
ENHANCED MULTI-LEVEL DELTA-SIGMA MODULATOR
SYSTEM CLOCK
SYSTEM CLOCK MANAGER
ZERO DETECT
SCLKI
EXTCLK
ZFLG1~6
ZERO8
ZERO7
ZFLAGA
VCC
AGND
DGND
VDD
DAC
OUTPUT AMP AND LOW-PASS FILTER
VOUT1 (VOUT2)
VOUT3 (VOUT4)
VOUT6
VOUT5
VOUT7 (VOUT8)
FL(R)
SL(R)
SW
CNT
MIXL(R)
ZFLAG
AU+5V
D+3.3V
(To Main Section)
S C
S Y
PY G
Cb B
Cr R
Q3111,3222
Q3116,3217
Q3121,3212
VIDEO AMP
C3FBND000098
IC6301
16M FLASH MEMORY
XWE
XOE
XBYTE
XRESET
XCE
A0~20
DQ0~15
WP/ACC
VDD
VSS
C1DB00000582
IC6561
CLOCK GENERATOR
CLK54
CLK27
CLK16
FSEL
CLK33
768fs
VDD1
VDD2
VDD3
CE
XTI
XTO
VSS1
VSS2
VSS3
X6561
(36.864MHz)
CLK27M
CLK16M
CLKSEL
CLK33M
EXTCLK
NOTES
: AUDIO & VIDEO SIGNAL LINE
: VIDEO SIGNAL LINE
: AUDIO SIGNAL LINE
: SURROUND SP. SIGNAL LINE
: CENTER SP. SIGNAL LINE
: SUB WOOFER SIGNAL LINE
( ) indicates pin No. Right channel.

● MAIN SECTION



SA-ST1(PP,EB,EG) MAIN BLOCK DIAGRAM

FM ANT
AM ANT
8 (6)
Lch (Rch)
Z101 TUNER PACK
(ENG06701Q ··· [PP]
ENG07709Q ··· [EB,EG])
DET 5
T.GND 1
VC 4
SD 3
CE 7
DI 9
CL 11
DO 10
TUN+B
SYS6V
Q901
LED DRIVE
SW5V
D904 (⏻)
FL901
FL DISPLAY
FL1
FL2
From POWER TRANSFORMER
52~63
29~44
DIG1~11
SEG00 ~15
C0HBB0000033
IC901
FL DRIVE
VP 64
-VP
Vcc1 8
Vcc2 18
L901
SW5V
XOUT 6
XIN 7
Vss 5
CS 2
RESET 1
SCK 3
SDATA 4
(From/To DVD/CD Player Section)
TRY TRV
TRY MUT
TRYIN
ZFLAG
AMUT
DSPCLK
CMD
STATUS
Q401
MUTING CONT.
D401
D402
Q402
MUTING
DWIDE1
DWIDE2
WIDE1
COMPH
VMUTE1
IPSEL
D WIDE1 6
D WIDE2 7
WIDE1 5
VMUTE2 3
VMUTE1 4
525P 100
D ST 29
D CMD 30
D CLK 28
DVD MUTE 27
DRV 1 21
DRV 2 22
DRY MUTE 23
TRY/TRV 26
TUN SD 83
TUN CE 79
TUN DO M 82
TUN CK 80
TUN DI M 81
DPL MODE 90
+VREF
FL CS 32
FL RST 34
FL CK 33
FL DA 31
C2CBJH000054
IC801
SYSTEM CONTROL
C0JZAS000004
IC400
SIGNAL SELECTOR
VEE 1
V-
VDD 30
V+
VSS 15
(From DVD/CD Player Section)
MIXL(R) 29 (2)
FL(R) 28 (3)
SL(R) 27 (4)
CNT 26 (5)
SW 24 (7)
23 (8)
21
20
10
11
X1
X2
X3
X4
X5
X6
X7-1
X8-1
X7-2
X8-2
25 (6)
22 (9)
19
12
LEVEL SHIFT
LATCH CIRCUIT
ST 14
SHIFT REGISTER
CK 16
DATA 17
AAC DA
DSP CS 77
DSP CK 76
DSP DA 75
DSP RST 74
D805
MUTE H 73
MUT A 72
MUT S 71
SUBW MIXSW 70
VOL ATT 69
DVD PWCNT 67
PCONT 66
CF ON/OFF 63
CF 1/2 61
HP MUTE 54
VOL CK 53
VOL DA 52
VOL LA 51
AAC CK 50
AAC DA 49
AAC ST 48
D804
HP SW 47
SYNC 18
DC DET 78
TUN+B
MPX IN 2
VDDA 3
VDDD 11
C1BB00000527
IC151
RDS SIGNAL DEMODULATOR
IDR 16
RDDA 14
RDCL 15
RDS RDY 84
RDS IN 85
RDS CK 86
X OUT 8
X IN 9
X151 (4.332MHz)
For [EB,EG] areas.
CLOSE SW 24
OPEN SW 25
CE 46
+VREF
S913
S914
SW5V
TC74HC00AFT1
IC902
ECS 55
ECK 57
E DA 56
CS 3
CLK 4
DI 5
DO 6
C3EBCG000031
IC802
EE PROM
Vcc 2
+VREF
GND 7
X IN 15
X OUT 13
X801 (10MHz)
KEY 97
KEY SWITCH (S901~912)
RESET 12
Q801
RESET
SYS6V
REMOCON 19
Z901 (REMOTE SENSOR)
L802
VREF 98
+VREF
D802
SYS6V
Vcc 16, 62
AVcc 99
CNVss 9
Vss 14, 64
AVss 96
L801
D801
SYS6V
B3NAB0000020
IC904
B3NAB0000020
IC903
SW5V

SA-ST1(PP,EB,EG) MAIN BLOCK DIAGRAM

C2HBZC000013
IC501
DIGITAL SIGNAL PROCESSOR

NJM4558MTE1
IC401
BUFFER AMP

TV IN
VCR IN /AUX

LIN4 (RIN4) 65 (69)
LIN3 (RIN3) 66 (70)
LIN2 (RIN2) 67 (71)
LIN1 (RIN1) 68 (72)
OUTL (OUTR) 75 (80)
VRAL (VRAR) 76 (79)
VDAL (VDAR) 77 (78)
VDX 2
VDA12 13
GNDAL (GND AR) (1)74

DSP A5V
L521
OSC
X501 (36.8MHz)
XI 3
XO 4

OP AMP
ΣΔ ADC
VRAL

DSP D5V
L545
L541

12CS 58
/ERR 57
IFDO 55
IFDI 54
IFCK 53
/CS 52
/RST 50
DSP DA
DSP CK
DSP CS
DSP RST

MICU I/F

DOUT 48
DIN0 46
DIN1 45
DIN2 43
SYNC 39
EBCI/O 41
ELRI/O 40
VDD 49
VDDR 37

AUDIO SERIAL INTERFACE

DSP (I/O INTERFACE)
DELAY RAM

GND 59
GNDX 5
TST0 60
TST1 61

[CH1/2]
[CH3]
[CH4]
ΣΔ
DAC
ATT

VRO1 20
VR1 21
VRO2 23
GNDA3 24
GNDA1 (GNDA2) 7 (18)
AO1 (AO2) 9 (15)
AI1 (AI2) 8 (17)
VDA34 28
AO3 26
AI3 25
AOT3 27
AO4 32
AI4 33
AOT4 30
AOT1 (AOT2) 11 (14)

DSP A5V

AAC ST
AAC CK

NJM4580D
IC601
BUFFER AMP

Q601 ATT
Q603 ATT CONT.
+B1

Q602 MUTING
Q604 MUTING CONT.
MUT AA
MUT A
+B1
VOL ATT
CF 1/2
CF ON/OFF
Q605~608
CF CONT.

C0ABCB000052
IC603 (1/4)
BUFFER AMP

C0ABCB000052
IC603 (2/4)
BUFFER AMP

Q610 MUTING
Q611 MUTING
Q701 MUTING CONT.
MUT S
+B1

BU4053BCFE2
IC402
SIGNAL SELECTOR

X/Y0 12 (2)
X/Y1 13 (1)
14 (15)
VDD 16
V+
VSS 7
V-
Z0 5
Z1 3
4
INH 6
G 8
SW CONT.
A 11
B 10
C 9

N F
N F
N F

M62444FPE1
IC502
SOUND CONTROL (ELECTRONIC VOLUME)

41 (32)
40 (31)
39 (30)
38 (29)
37 (28)
36 (27)
35 (26)
12
13
1
2
3
4
5
6
8
9
10
11

GND2 34
GND3 33
GND1 7
AVDD 42
V+
AVSS 25
V-
DGND 14
DATA 15
LATCH 16
CLOCK 17
DVDD 18
V+

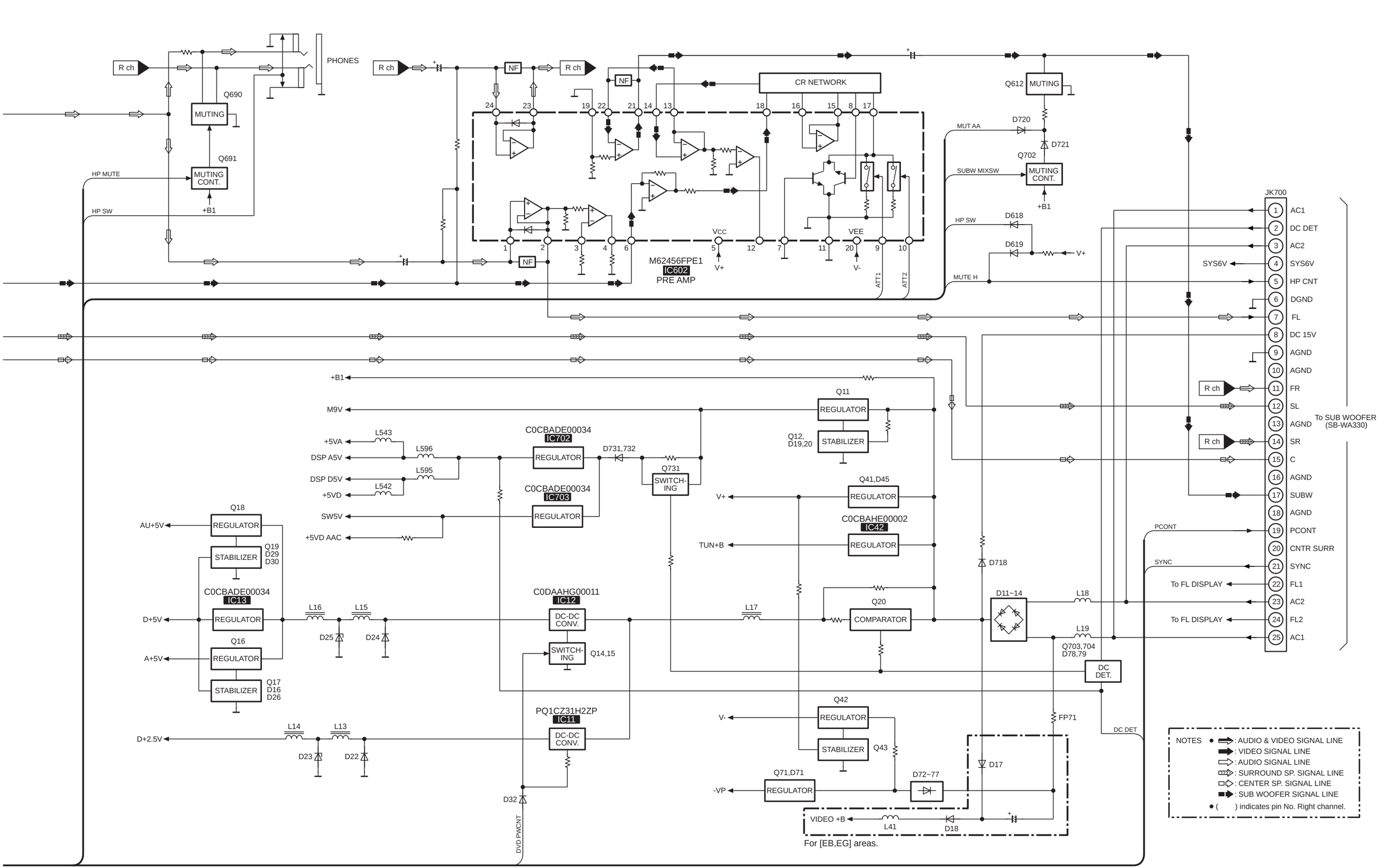
MCU I/F
OUTPUT PORT
PORT6 24
PORT5 23
PORT1 19
PORT2 20
PORT3 21
PORT4 22

ATT2
ATT1

C0ABCB000052
IC603 (1/4)
BUFFER AMP

VOL DA
VOL LA
VOL CK
INH
A
B
C

SA-ST1(PP,EB,EG) MAIN BLOCK DIAGRAM



SA-ST1(PP,EB,EG) MAIN BLOCK DIAGRAM

SCHEMATIC DIAGRAM–2

B DVD MODULE(FEP) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE

FP5201
NC 50
FG3 49
D.GND 48
D.GND 47
D.GND 46
D+5V 45
D+5V 44
D+5V 43
M+9V 42
M+9V 41
M+9V 40
M.GND 39
M.GND 38
M.GND 37
M.GND 36
MUTE12 35
MUTE3 34
DMV 33
FOIN 32
TRIN 31
SPDIN 30
TRVIN 29
INSW 28
LDCUR 27
VHALF 26
A.GND 25
PIN(CD) 24
T2(CD) 23
FE2(CD) 22
T1(CD) 21
LPCO2 20
A.GND 19
FE1(CD) 18
Vcc+5V 17
TB(DVD) 16
TC(DVD) 15
TD(DVD) 14
TA(DVD) 13
VREF2.2V 12
VREF2.2V 11
PIN(DVD) 10
GAIN H/L 9
F2(DVD) 8
F1(DVD) 7
RFN 6
RFP 5
A.GND 4
LPCO1 3
A.GND 2
3.3VHFM 1

To A INTERFACE CIRCUIT(FP5102) on SCHEMATIC DIAGRAM–1/6~10-A

LB5218 VLP0146-T
LB5202 J0JHC0000045
LB5203 J0JHC0000045
LB5205 VLP0146-T
LB5206 VLP0146-T
LB5208 VLP0146-T
LB5209 VLP0146-T
LB5210 VLP0146-T
LB5213 VLP0146-T
LB5217 VLP0146-T
LB5219 VLP0146-T
LB5238 VLP0155-T
LB5237 VLP0155-T
LB5236 VLP0155-T
LB5235 VLP0155-T
R5203 0 Ω
LB5233 VLP0155-T
LB5231 VLP0155-T
LB5230 VLP0155-T
LB5229 VLP0155-T
LB5228 VLP0155-T
LB5226 VLP0155-T
LB5225 VLP0146-T
LB5224 VLP0155-T
LB5223 VLP0155-T
LB5222 VLP0155-T
LB5221 VLP0155-T
R5201 0 Ω
LB5232 VLP0146-T
LB5227 VLP0146-T

A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 B15 B12 B11 B4 B16 B3 B10 B9 B8 B7 B13 B6 B5 B2 B1 B14

C5233 0.1
C5232 0.1
C5234 0.1
C5235 0.1
C5236 0.1

5V 9V 5V

C5201 10V10
C5203 0.1
L5201 10 μ H

To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-G
D+5V DB3
D.GND DG1
To B DVD MODULE SCHEMATIC DIAGRAM-5/1-H
M+9V MB1
M.GND MG1
To B DVD MODULE SCHEMATIC DIAGRAM-5/1-F
A+5V AB1
A.GND AG1
To B DVD MODULE SCHEMATIC DIAGRAM-5/1-D
D+3.3V DB1
D.GND DG1

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-D
VHALF FS32
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-F
VREF2 FS33
RFENV FS27

3.3V

QR5221
UN2121-TX
POWER SUPPLY

LB5239 VLP0146-T
R5221 0 Ω
0V (3.3V)
3.3V
C5221 0.1
3.3V (0V)

To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM–7/1-E
FC1 HFMON

IC5201
AN22030A-VT
FRONT END PROCESSOR

B13	(0.5V)0V	1	LPC1
B14	(3.2V)5V	2	LPCO1
B15	0V	3	LPC2
B16	5V	4	LPCO2
	(1.4V)2.6V	5	POFLT
		6	NC1
C2	1.7V	7	FBAL
C1	1.7V	8	TBAL
	1.7V	9	TEFLT
C9	1.7V	10	MONI2
	0V	11	TE
C10	1.7V	12	RFTE
C11	1.7V	13	FS
	1.7V	14	FE
	1.7V	15	VHALF
		16	Vss

C5292 100P
C5262 180P
C5204 0.1

	1.7V	48	PEAK
	2.2V	47	RFINN
	2.2V	46	RFINP
	0V	45	CRFHP2
	0.7V	44	CRFHP1
	0V	43	TESTSG
	0V	42	IDGT
	0V	41	SHORT
		40	NC3
	0V	39	AGCG2
	0.7V	38	AGCG1
	1.1V	37	SAG
	1.8V	36	DCFLT
	1.6V	35	FLTON
	1.6V	34	FLTOP
	3.3V	33	Vcc2

C5299 330P
C5290 1000P
C5264 0.018
C5282 0.01
C5271 1000P

	2.3V	64	GND
	2.3V	63	VIN10
	2.3V	62	VIN9
	2.3V	61	VIN4
	2.3V	60	VIN3
	2.3V	59	VIN2
	2.3V	58	VIN1
	1.8V	57	MONI
	2.2V	56	VREFRF
	2.3V	55	VREF
	2.3V	54	VIN8
	2.2V	53	VIN7
	2.2V	52	VIN6
	5V	51	VIN5
	1.7V	50	Vcc1
		49	RFENV

C5283 560P
R5281 1M

	3.3V	17	STANBY
	3.3V	18	SEN
	0V	19	SCK
	0V	20	STDIO
	0V	21	OFTR
	0V	22	BDO
	3.3V	23	DTRD
	0V	24	SHOLD
	3.3V	25	Vdd
		26	NC2
	0.5V	27	RSCL
		28	GND2
	1.2V	29	BDOSL
	1.2V	30	MIRSL
	2V	31	DCAGC
	1.2V	32	BRCA

RA5201 100
R5262 0 Ω
R5294 12K
C5254 390P
C5256 2200P
C5272 0.22
R5295 24K
C5205 0.1
C5202 16V10
L5202 10 μ H

R5231 8.2K
R5232 8.2K
C5291 2700P

C5273 1800P
C5274 0.1
Q5271
UN5211TX
SWITCHING
3.3V

R5320 0 Ω
R5257 0 Ω

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-A
TSTSG FS26
VFOSHORT FS37

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-B
FS5 GAINH/L A10
FS8 FG A1
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-C
FS13 TRV-SW+ A8
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-F
FS6 LDCUR A9
FS1 MUTE12 A2
FS2 MUTE3 A3
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-A
FS3 FODRV A4
FS10 TRDRV A5
FS11 SPDRV A6
FS12 TRVSDRV A7

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-F
NARF FS35
ARF FS36

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-B
FS14 TBAL C1
FS15 FBAL C2
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-A
FS16 DTRD C3
FS17 IDGT C4

To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-H
FS18 NRST C5
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-B
DCFLT FC3

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-C
FS19 FEPENB C6
FS20 FEPCLK C7
FS21 FEPDATA C8
FS23 TE C9
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-F
FS24 AS C10
FS25 FE C11
BDO FS28
OFTR FS29
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-C
RFDIF FS31
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-D

C4

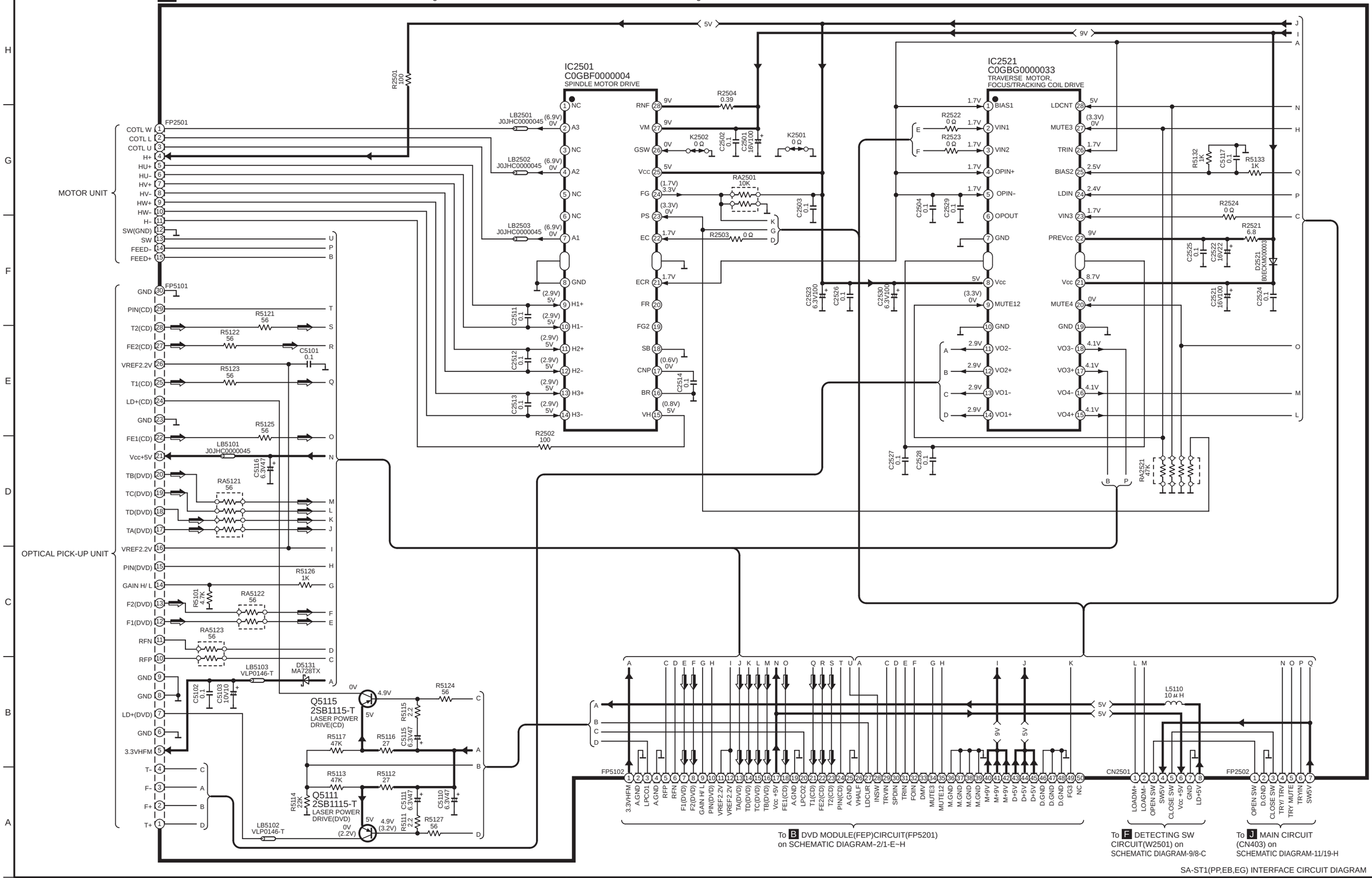
SA-ST1(PP,EB,EG) DVD MODULE(FEP) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–1

A INTERFACE CIRCUIT

NOTE:
The number which noted at the connectors on the schematic diagram as
"SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2"
indicates the schematic diagram serial number located on the left corner in the schematic diagram.

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE



SA-ST1(PP,EB,EG) INTERFACE CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–3

B DVD MODULE(SODC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE

IC2001
MN103S26EGA
OPTICAL DISC CONTROL

IC2101
C0JBAS000116
LOGIC CONTROL

Q2001
2SD1819ATX
RF AMP

PLAY
0.3V P-P
0.5 μs. 0.2V/DIV.

3.5V P-P
0.5 μs. 1V/DIV.

To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-E
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-G
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/12-E,F
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-F
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-A
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-B
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-C
To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/12-B
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-A
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-C
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-F
To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-F
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-A
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-C
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-A
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-C
TEST TERMINAL

SA-ST1(PP,EB,EG) DVD MODULE(SODC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-4

B DVD MODULE(AVDEC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO & VIDEO SIGNAL LINE :AUDIO SIGNAL LINE :VIDEO SIGNAL LINE

IC3001
MN6775511
AV DECODER

IC3062
C3ABPG000121
MEMORY

IC3061
C3ABPG000121
MEMORY

Q3116
2SB1218ARTX
VIDEO AMP

Q3111
2SB1218ARTX
VIDEO AMP

Q3121
2SB1218ARTX
VIDEO AMP

To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-G
To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-D
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-H
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-G
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-E,F
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-D
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/12-D
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/12-A,B
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-H
To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-B
To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-F
To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/1-C
SCHEMATIC DIAGRAM-6/12-A
SCHEMATIC DIAGRAM-6/1-F
SCHEMATIC DIAGRAM-6/1-H
SCHEMATIC DIAGRAM-6/1-F
SCHEMATIC DIAGRAM-6/12-F

SA-ST1(PP,EB,EG) DVD MODULE(AVDEC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–5

B DVD MODULE(VIDEO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE　:VIDEO SIGNAL LINE

To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-G — MB1 M+9V, MG1 M.GND
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-A — DB3 D+5V, DG1 D.GND
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-H — DB3 D+5V, DG1 D.GND
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-G — DB1 D+1.5V, DG1 D.GND
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-G — AB1 A+5V, AG1 A.GND
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-C — AB1 A+5V, AG1 A.GND
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/12-E — AB1 A+5V, AG1 A.GND
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-H — DB4 D+1.8V, DG1 D.GND
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-G — DB1 D+3.3V, DG1 D.GND
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-H — DB1 D+3.3V, DG1 D.GND
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-G — DB1 D+3.3V, DG1 D.GND
To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/1-F — DB1 D+3.3V, DG1 D.GND
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/12-H — DB1 D+3.3V, DG1 D.GND
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-C — VD1 CR/PR/R, VD2 CB/PB/B, VD3 Y/PY/G, VD4 Y, VD5 C, VB1 V+5V, VG1 V.GND

9V, 5V, 3.3V, 1.8V, 2.5V, 1.5V, 1.3V

FL6255 VLF1491S104T
FL6253 F1H0J1050018
FL6251 F1H0J1050018
FL6254 F1H0J1050018

C6257 6.3V100
C6251 10V10
C6252 10V10
C6253 10V10

IC6251 C0DBEZG00011 REGULATOR — OUT, IN, VR, GND, ON/OFF
R6251 100, R6252 100, R6253 1K
C6254 0.1

IC6252 C0DBFFG00004 REGULATOR — OUT, IN, NC, GND, ON/OFF
C6255 0.1

IC6253 C0DBCGE00002 REGULATOR — OUT, IN, NC, GND, ON/OFF
C6256 0.1

LB3203 100
LB3202 100
LB3201 100
CMD CV4, STATUS CV5, DSPCLK CV6
To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/1-C

PS3201
1 CB/PB/B, 2 V.GND, 3 DSPCLK, 4 STATUS, 5 CMD, 6 D.GND, 7 M+9V, 8 M.GND, 9 D+5V, 10 D.GND, 11 D+2.5V, 12 D.GND, 13 D+2.5V, 14 D.GND, 15 A+5V, 16 A.GND, 17 Y, 18 V.GND, 19 C, 20 V.GND, 21 CR/PR/R, 22 Y/PY/G
To J MAIN CIRCUIT (CN402) on SCHEMATIC DIAGRAM–12/30,31-H

Y, C
LB3205 VLP0146-T
LB3206 VLP0146-T

CB/PB/B: R3239 560, L3216 G1C4R7J00008, L3217 G1C4R7J00008, C3217 12P, C3218 12P, R3240 10K, C3219 0.01, R3241 100, R3242 1K, LB3208 VLP0146-T
V+5V
CR/PR/R: R3235 560, L3212 G1C4R7J00008, L3213 G1C4R7J00008, C3213 12P, C3214 12P, R3236 10K, C3215 0.01, R3237 100, R3238 1K, LB3209 VLP0146-T
Y/PY/G: R3243 560, L3221 G1C4R7J00008, L3222 G1C4R7J00008, C3222 15P, C3223 15P, R3244 10K, C3224 0.01, R3245 100, R3246 1K, LB3207 VLP0146-T

Q3217 2SB1218ARTX VIDEO AMP
Q3212 2SB1218ARTX VIDEO AMP
Q3222 2SB1218ARTX VIDEO AMP

SA-ST1(PP,EB,EG) DVD MODULE(VIDEO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–6

B DVD MODULE(AUDIO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE :SURROUND SP. SIGNAL LINE :CENTER SP. SIGNAL LINE :SUB WOOFER SIGNAL LINE

To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AD6 DMIXOUT

To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/12-G
AC1 SBI1
AC2 SBO1
AC3 SBT1
AC4 STBDAC2

To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-H
FS18 NRST

To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AD7 SRCK
AD8 LRCK

To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1,2-C
DB1 D+3.3V
DG1 D.GND

To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AD5 AOUT0
AD4 AOUT1
AD3 AOUT2

IC4211
C0FBBK000036
8ch AUDIO D/A CONVERTER

FL4201
F1H0J1050018

PS4201
26 ZFLAG
25 AMUT
24 ADAC5V
23 MIXR
22 ADACGND
21 MIXL
20 VREF
19 AC3H
18 FR
17 ADACGND
16 FL
15 ADACGND
14 SR
13 ADACGND
12 SL
11 ADACGND
10 SW
9 ADACGND
8 CNT
7 TRAYREF
6 TRAYDRV
5 TRAYMUT
4 TRV-SW+
3 TRAY/TRV
2 D.GND
1 AUDIO DIGITAL

To J MAIN CIRCUIT (CN401) on SCHEMATIC DIAGRAM-12/ 26,27-H

To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AUDIO DIGITAL AD9

To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-B
AD10 CLK54M
AD2 CLK27M

IC6561
C1DB00000582
CLOCK GENERATOR

To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/12-G
AC3H AC6
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-E
AMUT AC7
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-D
CLK33M AC8
To B DVD MODULE (CPU)CIRCUIT on SCHEMATIC DIAGRAM-7/1-E
CLKSEL AC5

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-A
CLK16M SA1

To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/12-B
EXTCLK AD1

SA-ST1(PP,EB,EG) DVD MODULE(AUDIO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–7

B DVD MODULE(CPU) CIRCUIT

:POSITIVE VOLTAGE LINE

To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/1-G — FS18 NRST
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-F — FS18 NRST
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-D — FS18 NRST
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-B — FS18 NRST
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-E — CD2 AV2IRQ, CD1 AV1IRQ
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-G — SC32 ODCIRQ, SC31 ADSCIRQ
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-G — SC27 WAIT, SC28 NRD, SC29 NWEL, SC30 NSODCCS
SCHEMATIC DIAGRAM-3/1-E
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-D,E — SC27 WAIT, SC28 NRD, SC29 NWEL, CD3 NWEH, CD4 NAVCS
To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/12-C — AC7 AMUT, AC5 CLKSEL
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/1-D — FC1 HFMON
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-D — CD5 SYSCLK
To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/12-C — AC8 CLK33M
To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/12-H — CV4 CMD, CV5 STATUS, CV6 DSPCLK
To B DVD MODULE (FEP)CIRCUIT on SCHEMATIC DIAGRAM-2/12-B — FC3 DCFLT
To B DVD MODULE (VIDEO DAC)CIRCUIT on SCHEMATIC DIAGRAM-5/1-G — DB3 D+5V, DG1 D.GND

LB6202 VLP0155-T
LB6201 VLP0146-T
LB6221 VLP0146-T

IC6211 PST596JNR RESET — M/R, SUB, GND, VOUT, Vcc 5 3.3V, R6211 4.7K
Q6215 UN5212TX RESET — D6215 MA728TX, R6215 10K, C6211 100P, C6215 0.1, RA6206 47K, R6216 1K
R6202 10K, RA6201 10K, R6201 47K
C6206 0.1

IC6201 MN102H60GFD CPU
0.2 µs. 0.5V/DIV. 1.5V P-P
R6210 100
R6207 4.7K, R6208 4.7K
RA6202 10K, R6206 10K
C6205 0.1, C6221 0.1
C6204 0.1, C6202 0.1, C6203 0.1

IC6223 C0JBAA000001 AND GATE — C6223 0.1
IC6222 C0JBAA000001 AND GATE — C6222 0.1
IC6221 C3EBGC000033 EE PROM — A0, A1, A2, GND, Vcc 8 3.3V, WP, SCL 6 3.3V, SDA 5 3.3V

IC6301 C3FBND000098 16M FLASH MEMORY
K6301 0 Ω, K6303 0 Ω
C6302 0.1, C6301 0.1

LB6201 VLP0146-T — D+3.3V DB1, D.GND DG1 — SCHEMATIC DIAGRAM-5/1-C
C6201 6.3V33
PS6201 TEST TERMINAL — 10 D+3.3V, 9 RESERVED, 8 KMODE, 7 SCSIEN, 6 258SY, 5 1968SY, 4 SBI1, 3 SBO1, 2 SBT1, 1 D.GND
RA6203 4.7K

To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/1-H — SBI1 AC1, SBO1 AC2, SBT1 AC3
To B DVD MODULE (AUDIO DAC)CIRCUIT on SCHEMATIC DIAGRAM-6/12-C — STBDAC2 AC4, AC3H AC6

To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-E,F — CPUADR0 SC9 … CPUADR17 SC26
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-C,D — CPUADR0 SC10 … CPUADR17 SC26
To B DVD MODULE (SODC)CIRCUIT on SCHEMATIC DIAGRAM-3/1-D,E — CPUDT0 SC1 … CPUDT7 SC8
To B DVD MODULE (AVDEC)CIRCUIT on SCHEMATIC DIAGRAM-4/1-B,C — CPUDT0 SC1 … CPUDT15 CD13

SA-ST1(PP,EB,EG) DVD MODULE(CPU) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–8

C IN/OUT TERMINAL CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO SIGNAL LINE

For [EB,EG] areas.

For [EB,EG] areas.

IC302
C1AB00001731
SIGNAL SELECT

IC301
C9ZB00000377
VIDEO BUFFER

IC303
C9ZB00000432
VIDEO BUFFER

Q316,317
UN5214TX
MUTING

Q310
UN5214TX
INTERFACE

Q317

Q316

Q313
2SB1218TX
VIDEO AMP

IC304
C1AB00001486
SIGNAL SELECT

For [EB,EG] areas.

For [PP] area.

For [PP] area.

For [EB,EG] areas.

Q311

Q312

Q311,312
2SB1218TX
VIDEO AMP

Q314
2SD1819ATX
POWER SUPPLY

Q304
UN5111TX
POWER SUPPLY

Q309
UN5214TX
SWITCHING

Q308
UN5213TX
POWER SUPPLY CONT.

Q307
UN5214TX
POWER SUPPLY CONT.

Q315
2SB1218TX
POWER SUPPLY

Q305
UN5214TX
POWER SUPPLY CONT.

JK305
VIDEO OUT

JK305
S1 VIDEO OUT

JK304
COMPONENT VIDEO OUT

AV CONNECTOR

JK306

JK301
L ch
R ch
TV IN

JK301
L ch
R ch
VCR IN/AUX

To J MAIN CIRCUIT (CP303) on SCHEMATIC DIAGRAM–12/34-H

To J MAIN CIRCUIT (CP302) on SCHEMATIC DIAGRAM–12/32-H

To J MAIN CIRCUIT (CP301) on SCHEMATIC DIAGRAM–12/33-H

CN303
TV Rch
TV Lch
VCR Rch
A.GND
VCR Lch
+5VD
OPT.GND
OPT SG
OPT.GND
BS L
NC

CN302
S C
V.GND
S Y
V.GND
PY G
V.GND
Cb B
V.GND
Cr R
V.GND
A+5V

CN301
VMUTE1
COMPH
DWIDE2 Ych
DWIDE1 RGBH
IPSEL
WIDE1
VIDEO +B

SA-ST1(PP,EB,EG) IN/OUT TERMINAL CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–9

D OPERATION CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :VIDEO SIGNAL LINE

R921 22K, R920 12K, R919 6.8K, R918 4.7K, R917 3.3K, R916 2.2K, R915 1.8K, R914 1.5K, R913 1.2K, R912 1K, R911 820

S912 (CUSTOM SOUND MEMORY)
S909 (VOLUME +)
S908 (VOLUME –)
S911 PROGRESSIVE OUT ··· [PP] RDS ··· [EB,EG]
S910 (SELECTOR)
S906 (▼/ V)
S905 (■)
S904 (II)
S903 (▲)
S907 (▲/ Λ)
S902 (OPEN/CLOSE)
S901 POWER ⏻ / I ··· [PP] ⏻ / I ··· [EB,EG]

D904 B3AAA0000604 (⏻)

CN905 4 3 2 1

W905 4 3 2 1

E FL CIRCUIT

FL901(A2BB00000117)
FL DISPLAY
1 2 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 36 37
b a Z Y X W V U T S R Q P O N M A B C D E F G H I J K L

C907 25V22
C908 25V22
C909 25V22
C910 25V22

M N O P Q R S T U V W X
21.6V 26.4V 26.4V 26.4V 10.4V 21.8V 19.6V 19.5V 12.8V 21.3V 26.4V 26.4V
48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
DIG15/SEG38 DIG16/SEG37 DIG17/SEG36 SEG35 SEG00 SEG01 SEG02 SEG03 SEG04 SEG05 SEG06 SEG07 SEG08 SEG09 SEG10 SEG11

Y Z a b

49 DIG14/SEG39
50 DIG13/SEG40
51 DIG12/SEG41
L -24.2V 52 DIG11/SEG42
K -24.2V 53 DIG10
J -24.2V 54 DIG09
I -24.2V 55 DIG08
H -24.2V 56 DIG07
G -24.2V 57 DIG06
F -24.2V 58 DIG05
E -24.2V 59 DIG04
D -24.2V 60 DIG03
C -24.2V 61 DIG02
B -24.2V 62 DIG01
A -24.2V 63 DIG00
-27.4V 64 VP

SEG12 32 -26.3V
SEG13 31 -15V
SEG14 30 -21.5V
SEG15 29 -19.6V
SEG16 28
SEG17 27
SEG18 26
SEG19 25
SEG20 25
SEG21 23
SEG22 22
SEG23 21
SEG24 20
SEG25 19
Vcc2 18 5V
SEG26 17

4V 0V –27V T = 3ms.

IC901
C0HBB0000033
FL DRIVE

4V 0V –27V T = 3ms.
5V P–P 0.5μs. 2V/DIV.
1V P–P 1μs. 1V/DIV.

1 RESET
2 CS
3 SCK
4 SDATA
5 Vss
6 XOUT
7 XIN
8 Vcc1
9 SEG34
10 SEG33
11 SEG32
12 SEG31
13 SEG30
14 SEG29
15 SEG28
16 SEG27

5V (3.7V)5V (4V)5V (2.9V)0V 2.2V 2.2V 5V
R910 10K
C903 120P
C914 56P
C913 56P
C912 56P
C911 0.1
C906 0.01
R906 22K
C902 0.01
C901 6.3V100
D903 MA111TX
R903 3.3K R904 3.3K R905 3.3K
C A B D
E

Q901 UN5214TX LED DRIVE
5V 0V
R922 1.5K
5V
R925 1.8 R927 1.8
R926 1.5 R928 1.5
R902 150 R901 150
D902 MA8043MTX
L901 100μH
C905 0.01
C904 10V47

CN911
14 CLOSE SW
13 SYS6V
12 LED GND
11 KEY
10 KEY GND
9 SW5V
8 FL CS
7 FL CK
6 FL RST
5 FL DA
4 -VP
3 FL 1
2 FL 2
1 D.GND

A B C D E

To J MAIN CIRCUIT (CN901) on SCHEMATIC DIAGRAM–10/1,2-F

G MOTOR CIRCUIT

M901 (LOADING MOTOR)
C916 0.01
WB903 1 3
WA903 1 3
W2501

To A INTERFACE CIRCUIT(CN2501) on SCHEMATIC DIAGRAM–1/11-A

LOADM+ 1
LOADM– 2
OPEN SW 3
SW5V 4
CLOSE SW 5
Vcc +5V 6
GND 7
LD +5V 8

S913 (OPEN DET.)
S915 (LASER ON/OFF)
S914 (CLOSE DET.)
R935 1K
C917 0.1
R929 4.7K
C918 0.1

H SENSOR(LOWER) CIRCUIT

IC903
B3NAB0000020
PHOTO INTERRUPTER
WA907 3 2 1
1.2V 0.1V

I SENSOR(UPPER) CIRCUIT

IC904
B3NAB0000020
PHOTO INTERRUPTER
WB907 3 2 1
1.2V 0.1V 2.4V
CN906 1 2 3 4
W906 1 2 3 4
R932 120
A B

IC902
TC74HC00AFT1
INTERFACE
14 Vcc
5V 5V 5V 0V
13 12 11 10 9 8
GND 7
1 2 3 4 5 6
0.1V 5V 5V 0.1V 0.1V 5V
R934 1K
R933 1K
R930 47K
R931 68K
A B

F DETECTING SW CIRCUIT

SCHEMATIC DIAGRAM–10

J MAIN CIRCUIT

:POSITIVE VOLTAGE LINE

:NEGATIVE VOLTAGE LINE

K REMOTE SENSOR CIRCUIT

Z901
B3RAD0000033
(REMOTE SENSOR)

W902

CN902

CN901

CLOSE SW
SYS6V
LED GND
KEY
KEY GND
SW5V
FL CS
FL CK
FL RST
FL DA
-VP
FL 1
FL 2
D.GND

To E FL CIRCUIT(CN911) on SCHEMATIC DIAGRAM–9/6-E

IC801
C2CBJH000054
SYSTEM CONTROL

VSEL B
VSEL A
VMUTE2
VMUTE1
WIDE1
DWIDE1
DWIDE2
BYTE
CNVss
/ RESET
X OUT
Vss
X IN
Vcc
/MNI
AC IN
REMOCON
DRV 1
DRV 2
DRY MUTE
CLOSE SW
OPEN SW
TRY/TRV
DVD MUTE
D CLK
D ST
D CMD

Q801
UN5214TX
RESET

X801
(10MHz)

F=10MHz

3V P–P

IC151
C1BB00000527
RDS SIGNAL DEMODULATOR

IDR
RDCL
RDDA
RST
MODE
VDDD
VSSD
X IN

VREF
MPX IN
VDDA
VSSA
FL OUT
C IN
TEST
X OUT

X151
(4.332MHz)

IC802
C3EBCG000031
EE PROM

NC
Vcc
CS
CLK
NC
GND
DO
DI

For [PP] area.

For [PP] area.

For [EB,EG] areas.

For [EB,EG] areas.

TUN CK
TUN CE
DCDET
DSP CS
DSP CK
DSP DA
DSP RST
MUTE H
MUT A
MUT S
SUBW MIXSW
VOL AT
D3V ON/OFF
DVD PWCNT
PCONT
BS L
Vss
CF ON/OFF
Vcc
CF 1/2
NC
NC
ECK
EDA
ECS
HP MUTE
VOL CK
VOL DA
VOL LA

FL DA
FL CS
FL CK
FL RST
M SO
M SI
M CK
M RST
SW4
SW3
EPM
SW2
SW1
JOGA
JOGB
CE
HP SW
AAC ST
AAC DA
AAC CK

525P
AVcc
VREF
KEY
AVss
DES1
DES2
DES3
PROG/ INT
MTI/ ST1
DPL MODE
AAC MUTE
AAC RQS
AAC ROM
RDS CK
RDS IN
RDS RDY
TUN SD
TUN DO M
TUN DI M

D801 1SS380TE-17
D802 1SS380TE-17
D803 MA111TX
D804 MA111TX
D805 MA111TX
D151 MA8051MTX

L801
L802
L151
L152
L153

R886 22K
R898 10K
R897 100
R812 10K
R849 820 ··· [PP] 1.8K ··· [EB,EG]
R842 0 Ω ··· [PP] 820 ··· [EB,EG]
R899 220
R803 220
R804 220
R811 10K
R813 1K
R814 22K
R815 4.7K
R816 47K
R817 47K
R818 220
R819 220
R820 220
R821 220
R822 220
R823 220
R824 220
R825 220
R836 47K
R840 47K
R861 4.7K
R837 1K
R844 1K
R850 22K
R851 22K
R852 22K
R853 4.7K
R858 100K
R885 1K
R884 1K
R883 1K
R882 1K
R880 220
R879 220
R876 220
R877 220
R862 4.7K
R875 330
R874 330
R873 330
R872 330
R854 220
R870 220
R869 330
R881 1K
R866 330
R865 330
R857 1K
R856 1K
R855 1K
R157 1K
R158 1K
R159 1K
R156 10K
R158 10K
R153 1K
R151 220
R152 330P
R155 560P
R156 47P
R157 47P
R159 1000P
R160 6.3V47

C803 50V3.3
C810 0.1
C811 6.3V100
C812 1000P
C813 0.01
C814 1000P
C815 10V1000
C860 1000P
C890 560P
C891 0.01
C892 16V22
C915 0.01
C802 50V1
C850 0.01
C151 16V10
C152 330P
C153 1000P
C154 6.3V47

SA-ST1(PP,EB,EG) MAIN,REMOTE SENSOR CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–11

J MAIN CIRCUIT

L CONNECTOR CIRCUIT

:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:FM/AM SIGNAL LINE
:SUB WOOFER SIGNAL LINE
:CENTER SP. SIGNAL LINE
:SURROUND SP. SIGNAL LINE
:AUDIO SIGNAL LINE

FM ANT
AM ANT
Z101 TUNER PACK
(ENG06701Q ··· [PP]
ENG07709Q ··· [EB,EG])
GND NC SD VC DET OUT Rch CE Lch DI DO CL
CP901
CN904
CP101
For [PP] area.
E402
E401
C437 1000P

To **A** INTERFACE CIRCUIT(FP2502) on SCHEMATIC DIAGRAM–1/12-A
CN403
OPEN SW D.GND CLOSE SW TRY/ TRV TRY'MUT TRYIN SW5V
J I K H G r

9V
5V
R102 1K
R101 1K
R104 10K
R103 10K
C101 4700P
C102 4700P
For [PP] area.

IC501
C2HBZC000013
DIGITAL SIGNAL PROCESSOR

IC401
NJM4558MTE1
BUFFER AMP

IC402
BU4053BCFE2
SIGNAL SELECTOR

IC400
C0JZAS000004
SIGNAL SELECTOR

X501 (36.86MHz)
F=36.86MHz
0.6V P-P
3V P-P

LIN4 LIN3 LIN2 LIN1 RIN4 RIN3 RIN2 RIN1 NC GNDAL OUTL VRAL VDAL VDAR VRAR OUTR

J MAIN CIRCUIT

To B DVD MODULE(AUDIO DAC)CIRCUIT(PS4201) on SCHEMATIC DIAGRAM–6/12-G,H

To B DVD MODULE(VIDEO DAC)CIRCUIT(PS3201) on SCHEMATIC DIAGRAM–5/12-F,G

To C IN/OUT TERMINAL CIRCUIT(CN302) on SCHEMATIC DIAGRAM–8/1-B

To C IN/OUT TERMINAL CIRCUIT(CN301) on SCHEMATIC DIAGRAM–8/1-A

To C IN/OUT TERMINAL CIRCUIT(CN303) on SCHEMATIC DIAGRAM–8/1-C

:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:SUB WOOFER SIGNAL LINE
:CENTER SIGNAL LINE
:SURROUND SP. SIGNAL LINE
:VIDEO SIGNAL LINE
:AUDIO SIGNAL LINE

CN401 AUDIO DIGITAL, D.GND, TRAY/ TRV, TRV-SW+, TRAYMUT, TRAYDRV, TRAYREF, CNT, ADAC GND, SW, ADAC GND, SL, ADAC GND, SR, ADAC GND, PL, ADAC GND, FR, AC3H, VREF, MIXL, ADAC GND, MIXR, ADAC5V, AMUTE, ZFLAG

CN402 CB/ PB/ B, V.GND, DSP CLK, STATUS, CMD, D.GND, M+9V, M.GND, D+5V, D.GND, D+2.5V, D.GND, D+2.5V, D.GND, A+5V, A.GND, Y, V.GND, C, V.GND, CR/ PR/ R, Y/ PY/ G

CP302 S C, V.GND, S Y, V.GND, PrY G, V.GND, Cb B, V.GND, Cr R, V.GND, A+5V

CP301 VIDEO +B, WIDE1, IPSEL, DWIDE1 RGBH, DWIDE2 Ych, COMPH, VMUTE1

CP303 TV Rch, TV Lch, VCR Rch, A.GND, VCR Lch, +5VD, OPT.GND, OPT SG, OPT.GND, BS L, NC

Q401 UN5214TX MUTING CONT. 3.4V
Q402 UN5214TX MUTING
D401 MA111TX, D402 MA111TX
R454 10K, R410 10K, R475 0 Ω
C431 16V10, C427 16V10

IC502 M62444FPE1 SOUND CONTROL (ELECTRONIC VOLUME)
AVDD, AVSS, GND1, GND2, GND3, DGND, DVDD
SL, SR, SW, C
OUT PUT PORT, DATA LATCH CLOCK
PORT1, PORT2, PORT3, PORT4, PORT5, PORT6
R591 390, R595 1K, D591 MA8051MTX, R583 47K, R582 47K

IC603 C0ABCB000052 BUFFER AMP
Vcc, Vss

Q611 B1ABGC000001 MUTING
Q610 B1GFGCAA0001 MUTING
Q702 UN5115TX MUTING CONT.
Q701 UN5115TX MUTING CONT.

D720 MA111TX, D721 MA111TX

SCHEMATIC DIAGRAM–13

J MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE :SUB WOOFER SIGNAL LINE

IC601 NJM4580D BUFFER AMP

Q601 B1GFGCAA0001 ATTENUATOR

Q602 B1GFGCAA0001 MUTING

Q603 UN5115TX ATTENUATOR CONT.

Q604 UN5115TX MUTING CONT.

Q690 B1GFGCAA0001 MUTING

Q691 UN5115TX MUTING CONT.

IC602 M62456FPE1 PRE AMP

Q608 UN5115TX CF CONT.

Q606 B1ABGC000001 CF CONT.

Q607 UN5115TX CF CONT.

Q605 B1ABGC000001 CF CONT.

Q612 B1ABGC000001 MUTING

Q15 UN5214TX SWITCHING (POWER)

Q14 UN5214TX SWITCHING (POWER)

Q18 2SB621RSTA REGULATOR

Q16 2SB1417PQTA REGULATOR

Q19 2SD1819ATX STABILIZER

Q17 2SD1819ATX STABILIZER

IC13 C0CBADE00034 REGULATOR

IC12 C0DAAHG00011 DC-DC CONVERTER

IC11 PQ1CZ31H2ZP DC-DC CONVERTER

Q11 2SA20570P REGULATOR

Q12 2SD1819ATX STABILIZER

Q20 2SB1218TX COMPARATOR

SCHEMATIC DIAGRAM–14

J MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :SURROUND SP. SIGNAL LINE :SUB WOOFER SIGNAL LINE

:NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE :CENTER SP. SIGNAL LINE

IC703 C0CBADE00034 REGULATOR — OUT IN GND — 5V 7.4V

IC702 C0CBADE00034 REGULATOR — OUT IN GND — 5V 7.4V

Q731 UN5111TX SWITCHING

Q704 UN5211TX DC DET.

Q703 2SB1218TX DC DET.

Q41 2SD2374PQAU REGULATOR — 7V 15V — 7.6V

IC42 C0CBAHE00002 REGULATOR — OUT GND IN — 9V 15V

Q42 2SB621RSTA REGULATOR — -7V -12.2V — -7.6V

Q43 2SB1218TX STABILIZER — -0.6V

Q71 2SB621RSTA REGULATOR — -27.4V -39.4V — -28V

D78 MA143TX

D79 MA111TX

D731,732 RL1N4003N02

D732 D731

D723 MA111TX

D618 MA111TX

D619 MA111TX

D729 MA111TX

D718 RL1N4003N02

D72-77 RL1N4003N02

D72 D73 D74 D75 D76

D17 RL1N4003N02 D18 RL1N4003N02

D14 1N5402BM21 D13 1N5402BM21 D11 1N5402BM21 D12 1N5402BM21

D45 MA8075MTX D51 MA8120MTX D71 MAZ82700ML D77

FP71 K5G202AA0002

L18 L19 L41 10μH

R731 0.39 R729 10K R728 4.7K R727 33K R725 1K R723 220K R724 68K R717 6.8K R733 22 R726 10K R45 27K R44 15K R41 2.2 R42 3.9K R43 150 R47 2.2 R48 4.7K R49 15K R71 4.7K R72 22K R73 560 R74 150K R50 1.5K

C733 0.1 C703 0.1 C704 0.1 C734 0.1 C59 1 C58 1 C611 0.047 C612 0.047 C61 1000P C691 16V10 C38 0.1 C55 25V6800 C51 1000P C52 16V100 C50 16V10 C49 0.1 C53 25V10 C39 25V10 C35 1000P C56 16V47 C57 16V10 C30 0.047 C14 0.047 C40 35V10 C44 63V100 C43 63V100 C45 50V100 C47 50V100 C48 25V1000 C46 25V1000 C728 50V4.7 C12 50V4.7 C54 50V22 C13 0.1 C33 0.01

JK901 PHONES

JK700

1	AC1
2	DC DET
3	AC2
4	SYS6V
5	HP CNT
6	D.GND
7	FL
8	DC 15V
9	A.GND
10	A.GND
11	FR
12	SL
13	A.GND
14	SR
15	C
16	A.GND
17	SUBW
18	A.GND
19	PCONT
20	CNTR SURR
21	SYNC
22	FL1
23	AC2
24	FL2
25	AC1

To SUB WOOFER (SB-WA330)

E2 E1

For [EB,EG] areas.

For [EB,EG] areas.

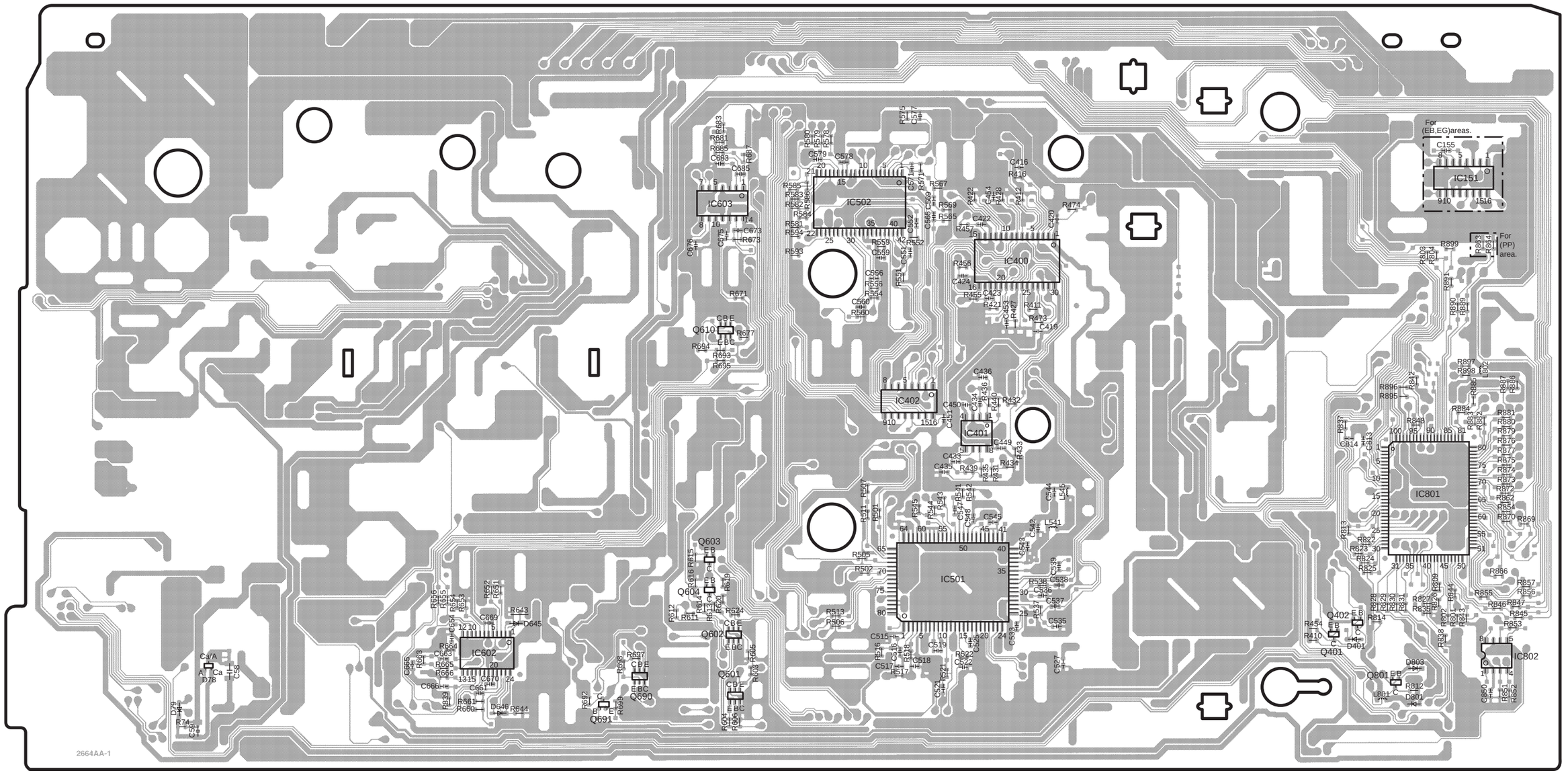
9V 7V 15V 12V 6V 5V -2.2V 6.9V

SA-ST1(PP,EB,EG) MAIN CIRCUIT DIAGRAM

49 50 51 52 53 54 55 56 57 58 59 60

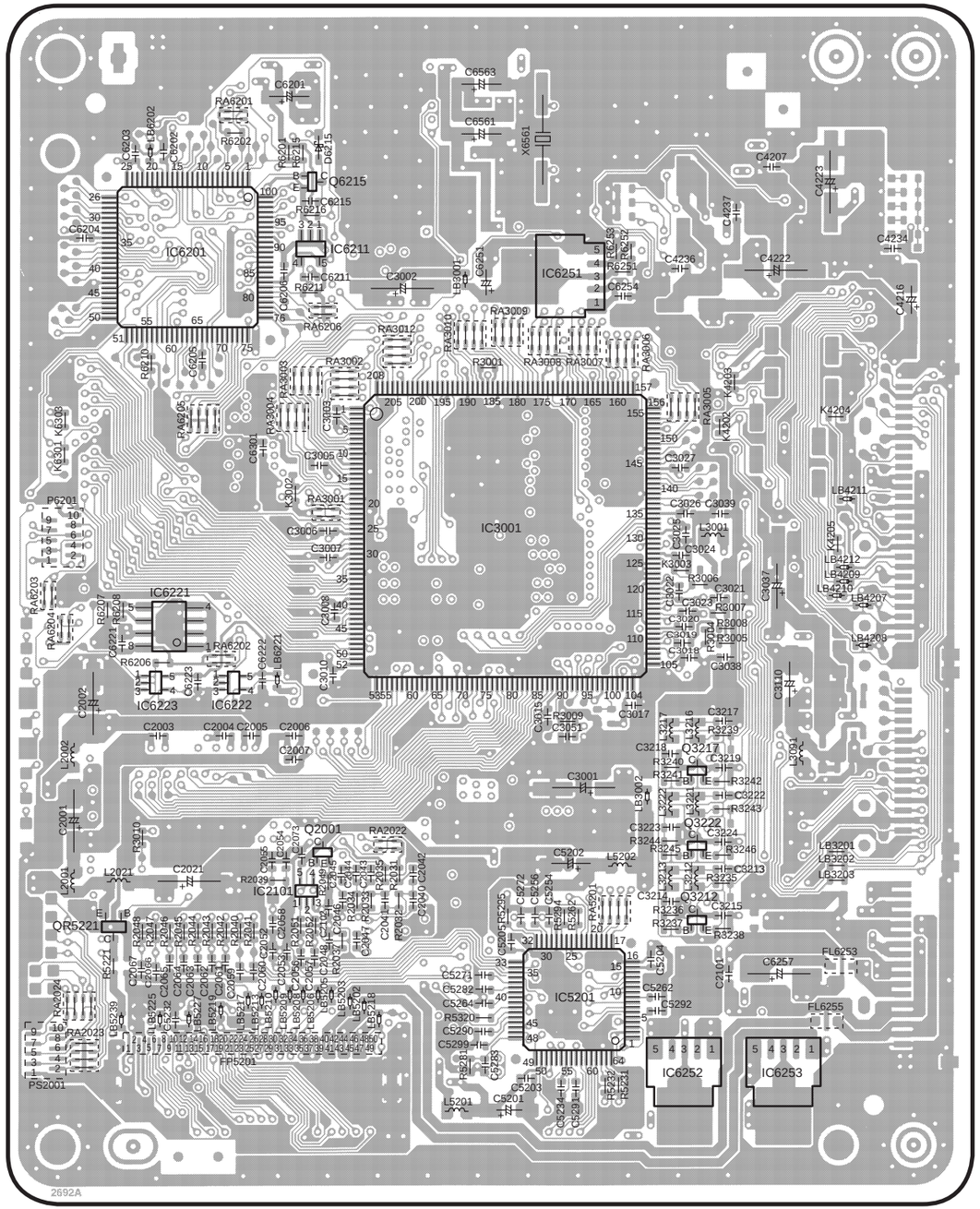
H G F E D C B A

J MAIN P.C.B. (SIDE : A)



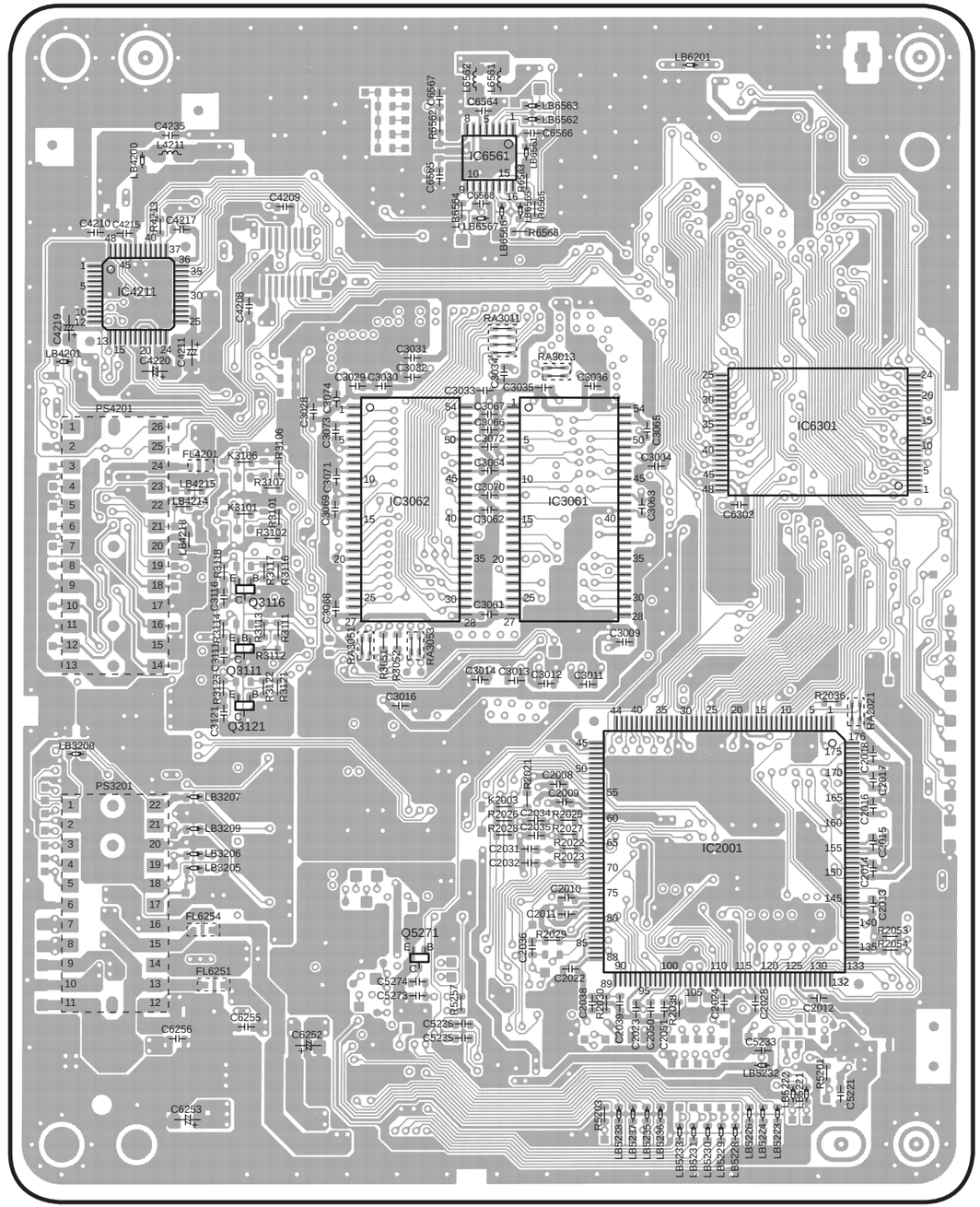
(REP3448B-M . . .(PP)
REP3448C-M . . .(EB,EG))

B DVD MODULE P.C.B. (SIDE : A)



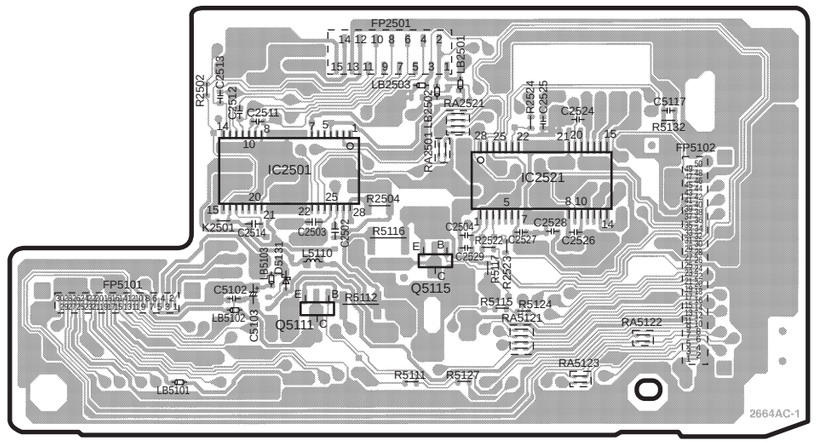
(REP3479L-N . . .(PP)
REP3479M-N . . .(EB,EG))

B DVD MODULE P.C.B. (SIDE : B)



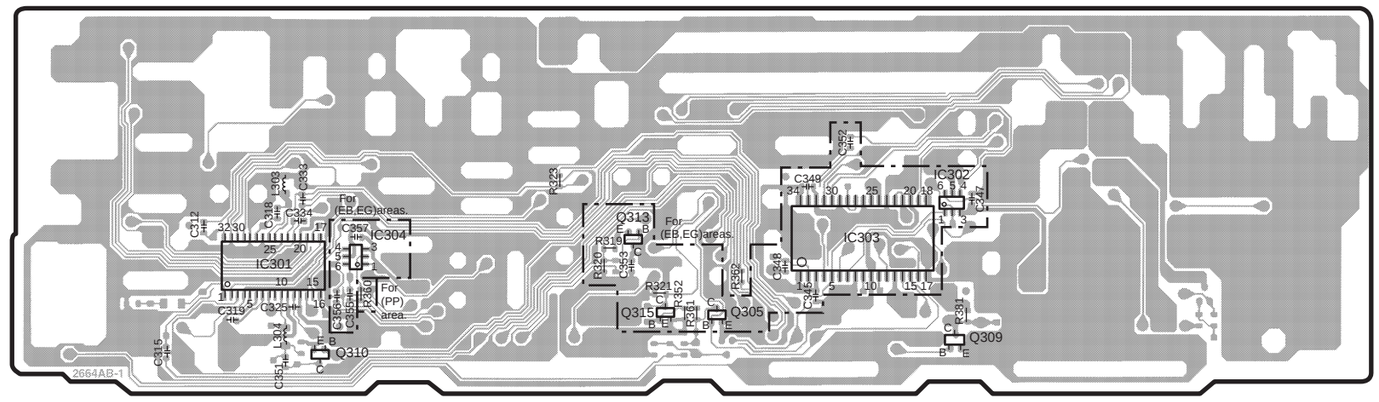
Note: This printed circuit board diagram may be modified at any time with the development of new technology.

A INTERFACE P.C.B. (SIDE : A)



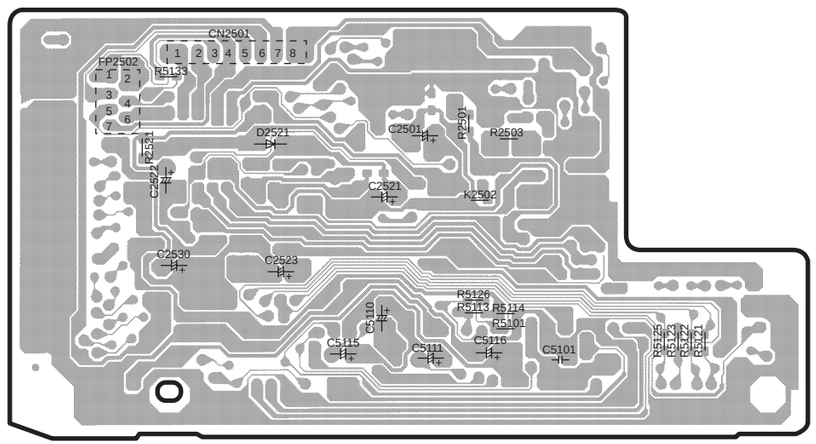
(REP3448B-M . . .(PP)
REP3448C-M . . .(EB,EG))

C IN/ OUT TERMINAL P.C.B. (SIDE : A)

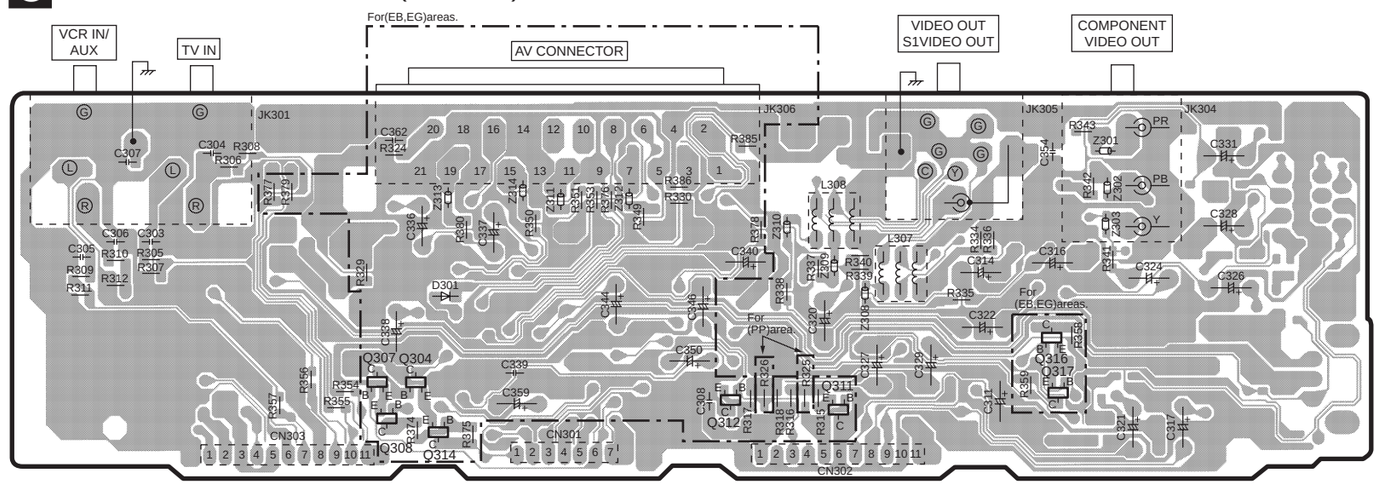


(REP3448B-M . . .(PP)
REP3448C-M . . .(EB,EG))

A INTERFACE P.C.B. (SIDE : B)

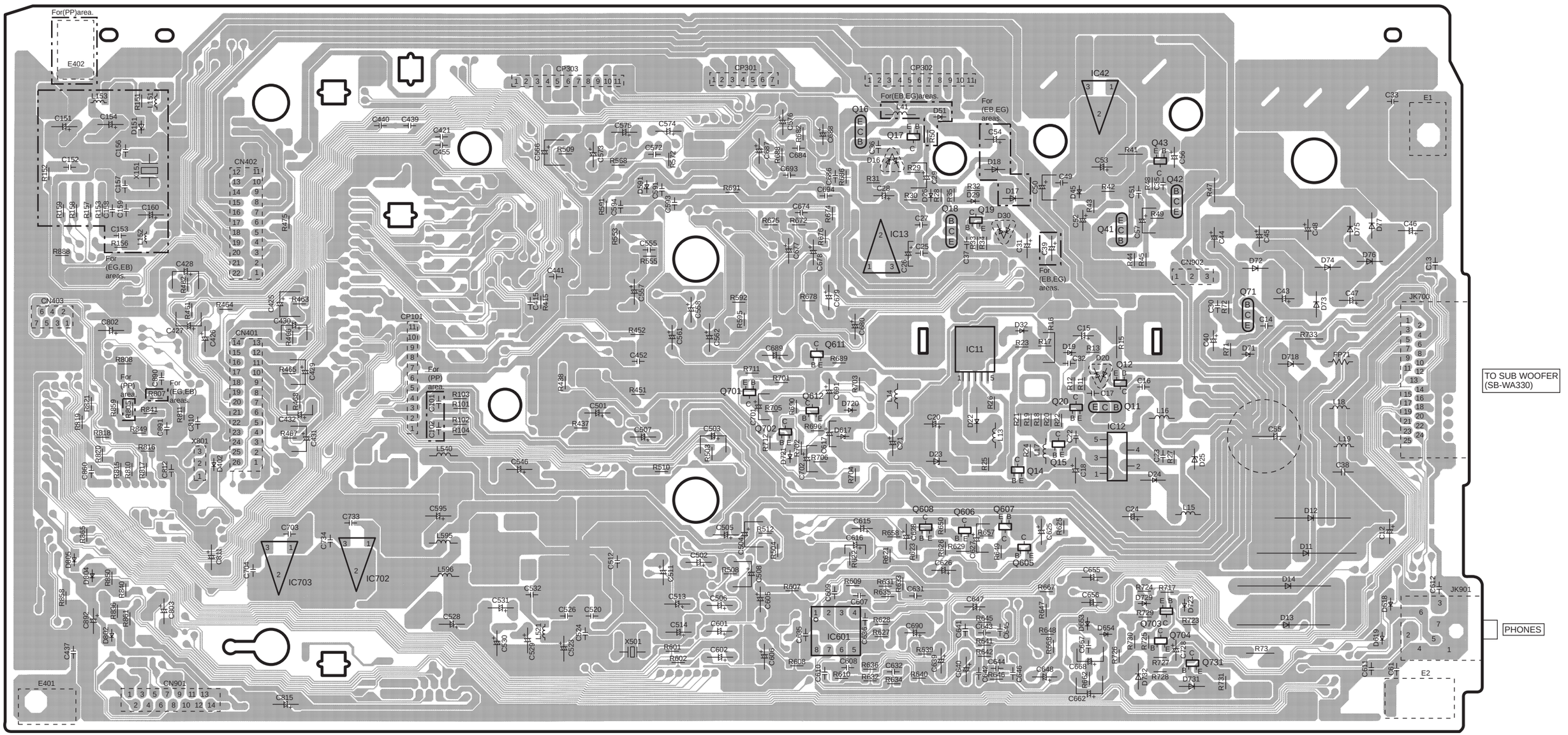


C IN/ OUT TERMINAL P.C.B. (SIDE : B)



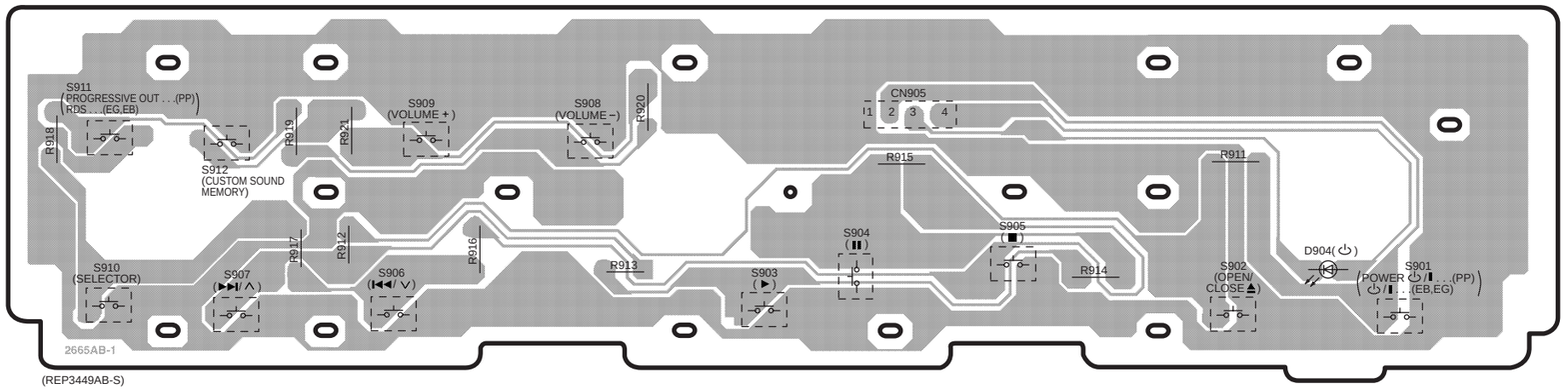
SA-ST1(PP,EB,EG) INTERFACE, IN/ OUT TERMINAL P.C.B.

J MAIN P.C.B. (SIDE : B)



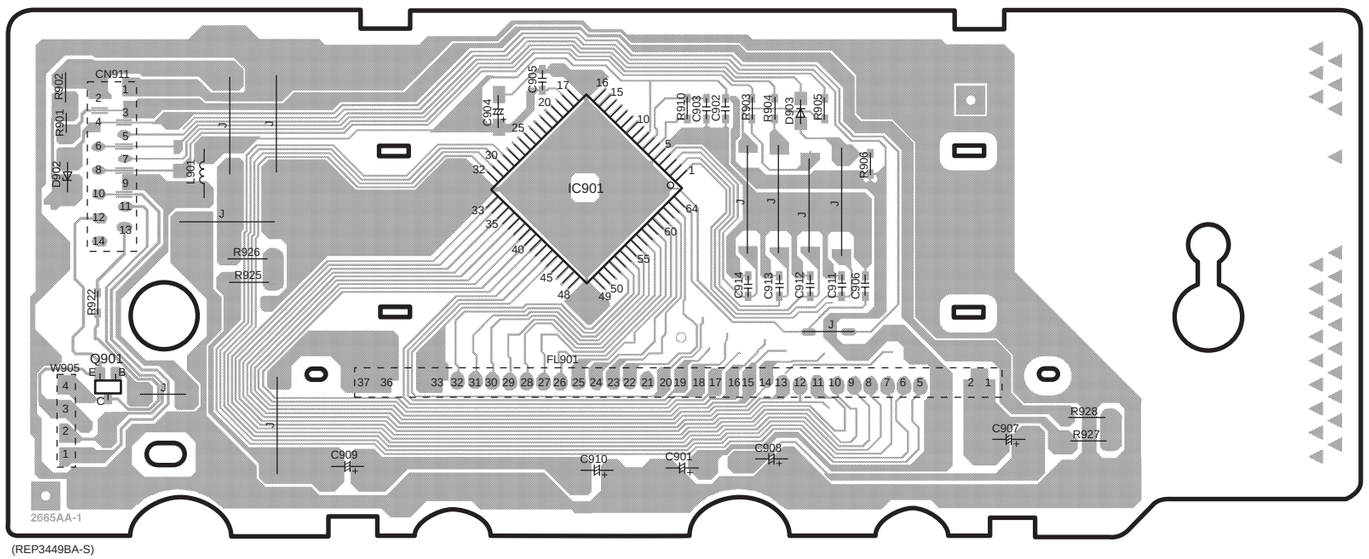
SA-ST1(PP,EB,EG) MAIN P.C.B.(SIDE:B)

D OPERATION P.C.B.



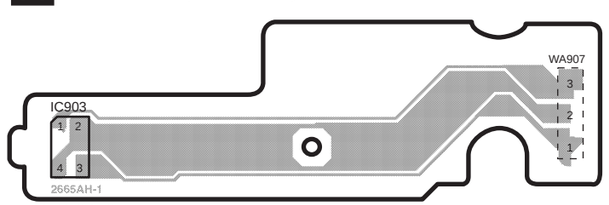
(REP3449AB-S)

E FL P.C.B.



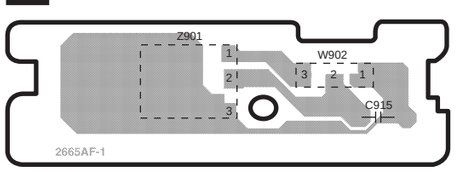
(REP3449BA-S)

H SENSOR(LOWER) P.C.B.



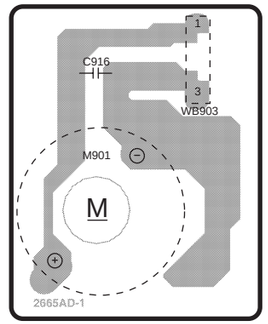
(REP3449BH-S)

K REMOTE SENSOR P.C.B.



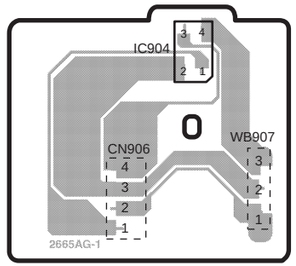
(REP3449AF-S)

G MOTOR P.C.B.



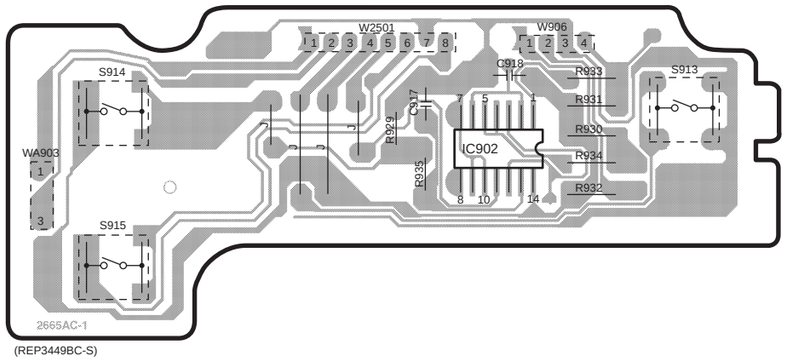
(REP3449AD-S)

I SENSOR(UPPER) P.C.B.



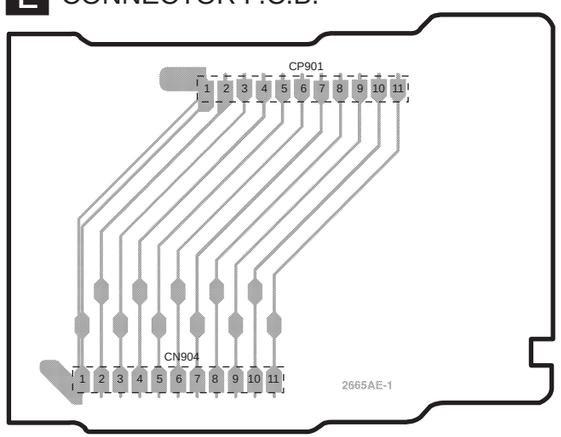
(REP3449AG-S)

F DETECTING SW P.C.B.



(REP3449BC-S)

L CONNECTOR P.C.B.



(REP3449AE-S)

B DVD MODULE P.C.B.

PS4201

PS3201

FP5201

MOTOR UNIT

TRAVERSE MOTOR

SPINDLE MOTOR

FP2502

FP5102

CN2501

FP2501

FP5101

OPTICAL PICK-UP UNIT

A INTERFACE P.C.B.

E FL P.C.B.

CN911

W905

CN905

D OPERATION P.C.B.

C IN/ OUT TERMINAL P.C.B.

CN303

CN301

CN302

CP303

CP301

CP302

J MAIN P.C.B.

CN402

CN403

CN401

CP101

CN901

CN902

W902

K REMOTE SENSOR P.C.B.

L CONNECTOR P.C.B.

CP901

Z101 TUNER PACK

CN904

H SENSOR(LOWER) P.C.B.

WA907

WB907

CN906

I SENSOR (UPPER) P.C.B.

W906

W2501

F DETECTING SW P.C.B.

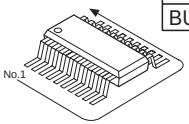
WA903

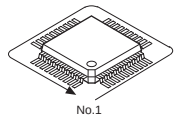
WB903

G MOTOR P.C.B.

M

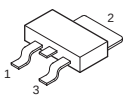
C3EBCG000031	8PIN	NJM4558MTE1	8PIN	C9ZB00000377	32PIN
C1DB00000582	16PIN	C0ABCB000052	14PIN	C1AB00001731	6PIN
C3ABPG000121	54PIN	C0JZAS000004	30PIN	C9ZB00000432	34PIN
BU4053BCFE2	16PIN	M62444FPE1	42PIN	C1BB00000527	16PIN
		M62456FPE1	24PIN	C1AB00001486	6PIN



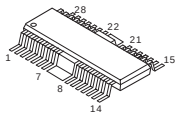


C0HBB0000033	64PIN
AN22030A-VT	64PIN
MN102H60GFD	100PIN
MN6775511	208PIN
C0FBBK000036	48PIN
MN103S26EGA	176PIN

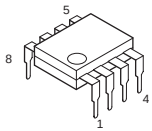
C0CBADE00034
C0CBAHE00002



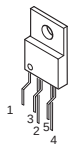
C0GBF0000004
C0GBG0000033



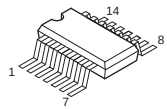
NJM4580D



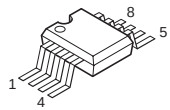
C0DAAHG00011



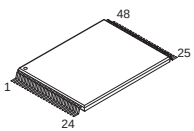
TC74HC00AFT1



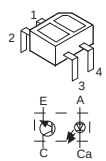
C3EBGC000033



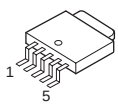
C3FBND000098



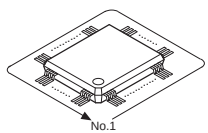
B3NAB0000020



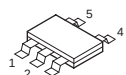
C0DBCGE00002
C0DBEZG00011
C0DBFFG00004
PQ1CZ31H2ZP



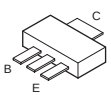
C2HBZC000013	80PIN
C2CBJH000054	100PIN



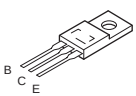
PST596JNR
C0JBAA000001
C0JBAS000116



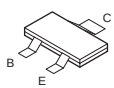
2SB1115-T



2SA20570P
2SD2374PQAU

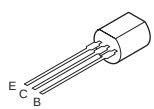


SB1218TX
2SB1218ARTX
2SD1819ATX

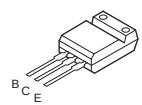


B1ABGC000001
UN5214TX
UN2121-TX
UN5212TX
UN5211TX
UN5111TX
UN5115TX
UN5213TX

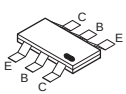
2SB621RSTA



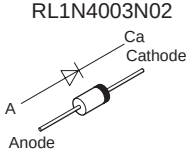
2SB1417PQTA



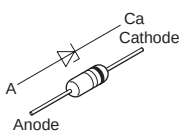
B1GFGCAA0001



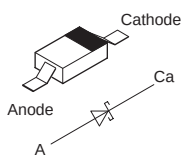
1N5402BM21
RL1N4003N02



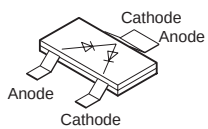
MA7075A-TR



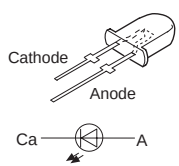
MA728TX

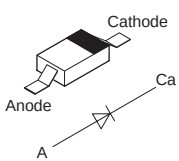


MA143TX

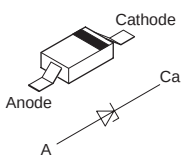


B3AAA0000604





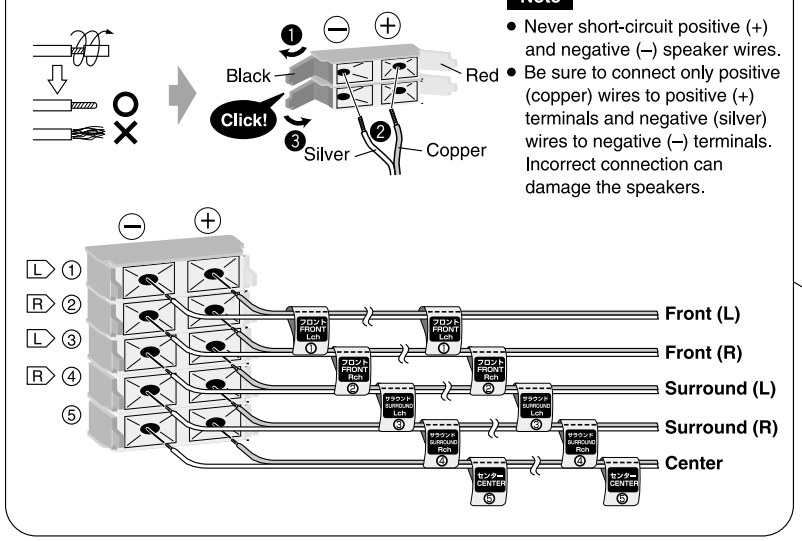
MA111TX
1SS380TE-17
SFPB-72V
B0ECKM000003



MA8043MTX
MA8051MTX
MA8075MTX
MAZ80820HL
MAZ82700ML
MA8120MTX

● The illustration shows SA-ST1EB.

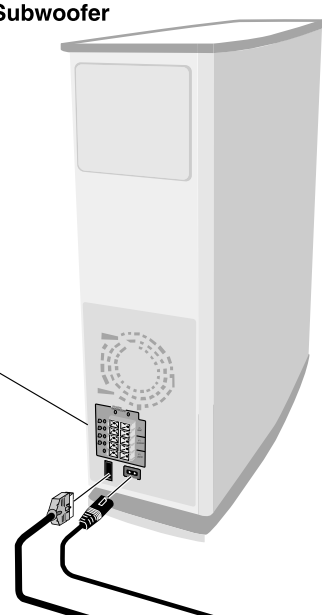
1 Speakers



Note

- Never short-circuit positive (+) and negative (–) speaker wires.
- Be sure to connect only positive (copper) wires to positive (+) terminals and negative (silver) wires to negative (–) terminals. Incorrect connection can damage the speakers.

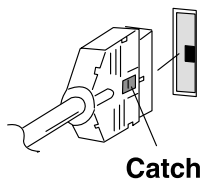
Subwoofer



2 System cable

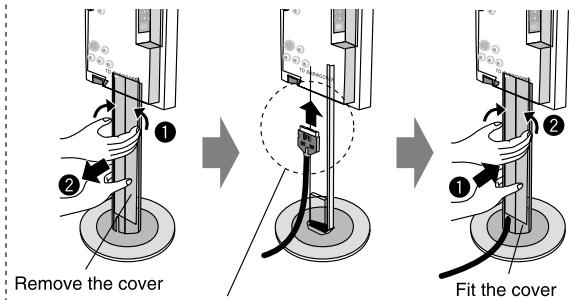
Subwoofer

Catch facing right

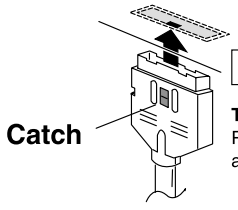


To disconnect
Press the catch and pull out.

Main unit

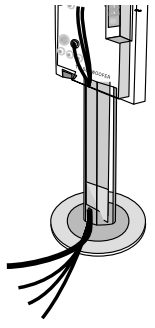


Catch facing out

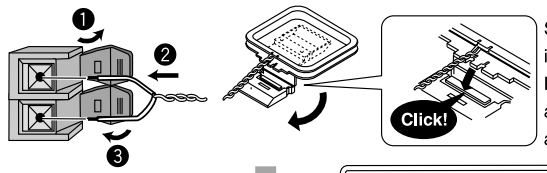


To disconnect
Press the catch and pull out.

You can also pass other cables through the removable cavity.

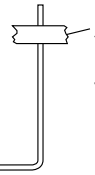


3 AM loop antenna



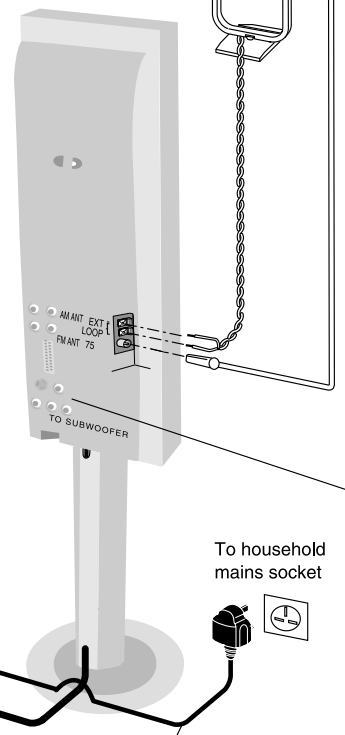
Stand the antenna up on its base.
Keep loose antenna cord away from other wires and cords.

4 FM indoor antenna



Adhesive tape
Place the antenna where reception is best.

Main unit



To household mains socket

SC-ST1EB only

BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD BEFORE CONNECTION.

6 AC mains lead

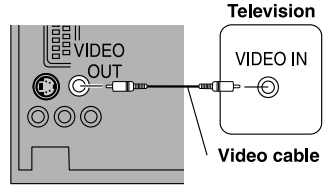
Connect the AC mains lead after all other connections are complete.

Conserving power

The unit consumes power
(approx. 0.5 W <SC-ST1PP>/
0.7 W <Except for SC-ST1PP>)
even when it is turned off with [POWER⏻/I] (SA-ST1PP)/ [⏻/I] (Except for SA-ST1PP).
To savepower when the unit is not to be used for along time, unplug it from the householdmains socket.
Remember to reset the radio stations and any other memory items before using the unit again.
Information you enter into the unit's memory remains intact for up to 2 weeks after the AC mains lead is disconnected.

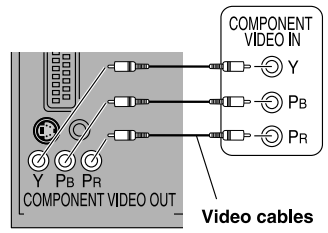
5 Connection to your television

■ Connecting a television using the VIDEO IN terminal



Connect directly to your television.
Do not connect the unit through a video cassette recorder, because the picture may not be played correctly due to the copy guard.

■ Connecting a television using the COMPONENT VIDEO IN terminals



COMPONENT VIDEO OUT terminals
These terminals can be used for either interlace or progressive output and provide a purer picture than the S VIDEO OUT terminal and SCART (AV) terminal. Connection using these terminals outputs the color difference signals (PB/PR) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors.

- The description of the component video input terminals depends on the television or monitor (e.g. Y/PB/PR, Y/B-Y/R-Y, Y/CB/CR).
  Connect to terminals of the same color.

For SA-ST1PP only

- After making this connection, change the black level for a better picture.

To enjoy progressive video

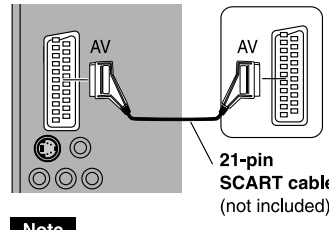
- Connect to the component video (480P) input terminals on a television compatible with this unit's copy guard system. (Video will not be displayed correctly if connected to an incompatible television.)

For SA-ST1PP only

- Press [PROGRESSIVE OUT] on the main unit so "PROGRESSIVE" appears on the display.
- All televisions manufactured by Panasonic and that have 480P input connectors are compatible. Consult the manufacturer if you have another brand of television.

Except for SA-ST1PP

■ Connecting a television using the SCART (AV) terminal



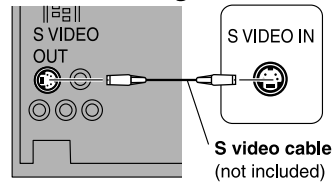
SCART (AV) terminal
To improve picture quality, you can change the video signal output from the SCART (AV) terminal from "Video" to either "S-Video" or "RGB" to suit the type of television you are using.

- An audio cable connection from the main unit to the television is not necessary as the television's audio signal is also transmitted when connected with a SCART (AV) cable.

Note

The SCART (AV) cable connector may not fit into place as intended because the video cables or S VIDEO cable are in the way.
Remove either the video cable or S VIDEO cable if there is a problem with video quality because of problems connecting to the terminals properly.

■ Connecting a television using the S VIDEO IN terminal



S VIDEO OUT terminal
The S VIDEO OUT terminal achieves a more vivid picture than the VIDEO OUT terminal by separating the chrominance (C) and luminance (Y) signals. (Actual results depend on the television.)

Optional antenna connections

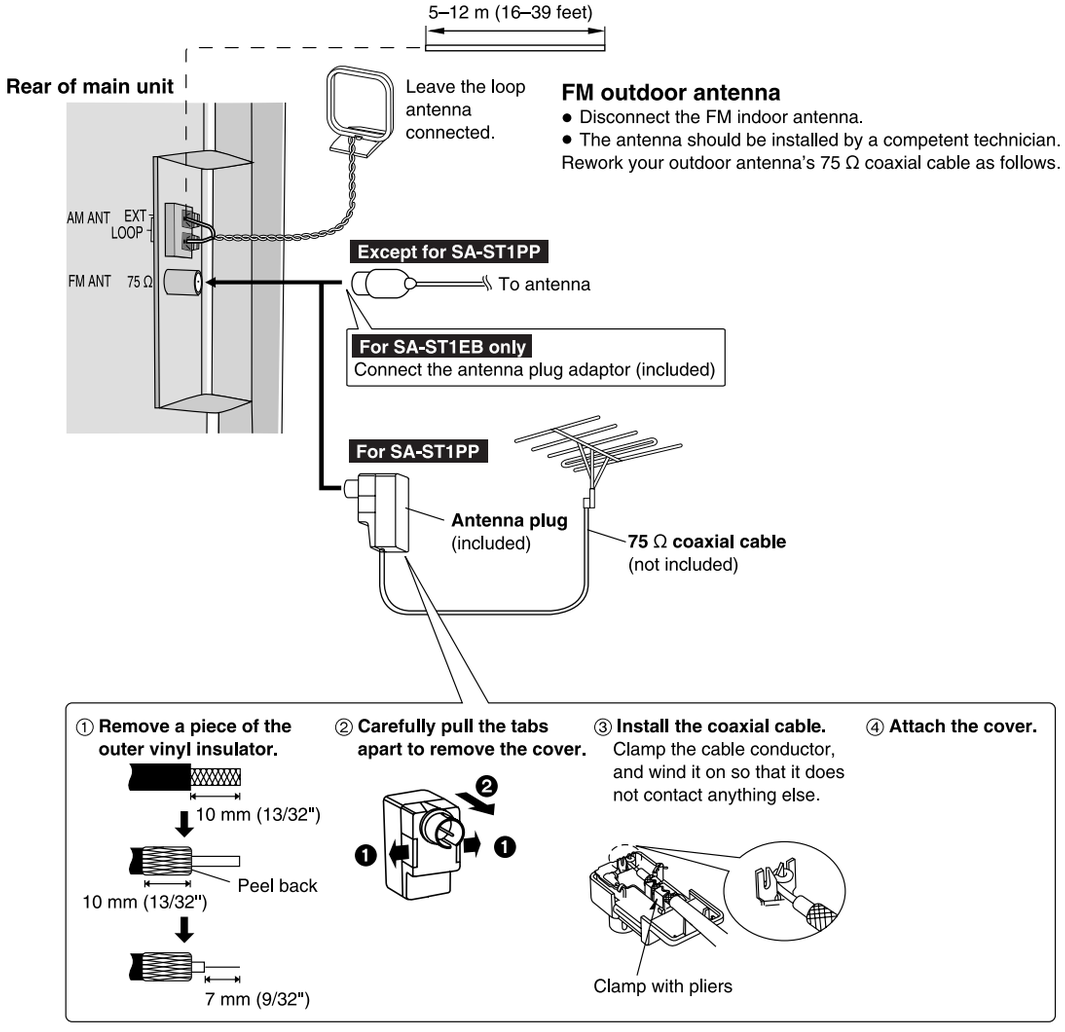
Use outdoor antennas if radio reception is poor.

Note

Disconnect the antenna when the unit is not in use.
Do not use the outdoor antenna during an electrical storm.

AM outdoor antenna (Using a vinyl wire)

Run a piece of vinyl wire horizontally across a window or other convenient location.



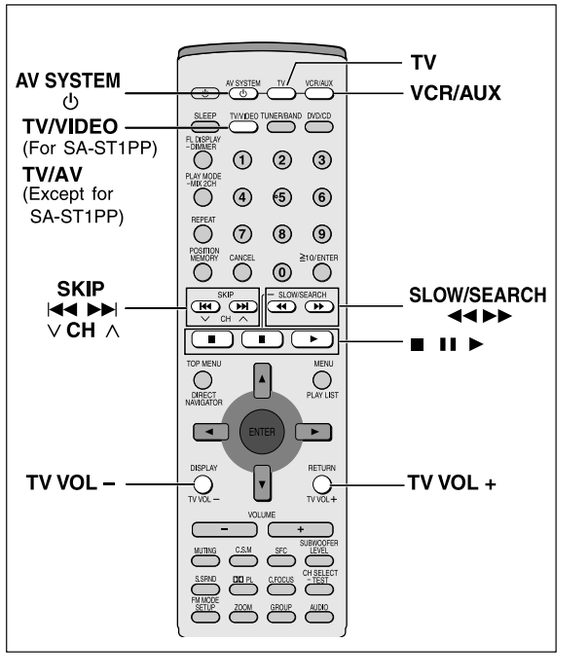
FM outdoor antenna

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

Rework your outdoor antenna's 75 Ω coaxial cable as follows.

Operating a television or video cassette recorder

You can use the remote control to operate a Panasonic television or a video cassette recorder. (Some models cannot be operated by this remote control.)



Operating a television

Preparation

- Face the remote control at this unit and press [TV]. The button lights and "TV" appears on the unit's display. You can now operate the television.
- Face the remote control at the television for the following operations.

■ Turning the television on/off

Press [⏻, AV SYSTEM].

■ Switching the television's video input mode

Press [TV/VIDEO] (For SA-ST1PP)
Press [TV/AV] (Except for SA-ST1PP).

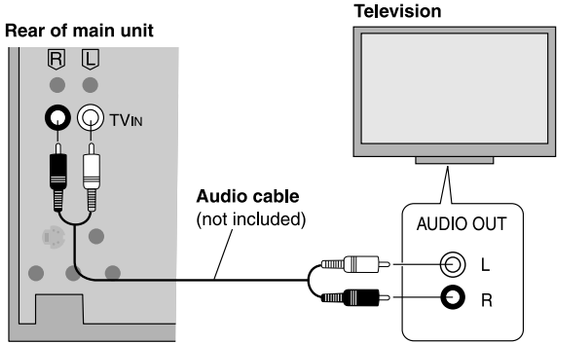
■ Changing channels

Press [⏮, ∨ CH] or [⏭, CH ∧].

■ Adjusting the volume

Press [TV VOL –] or [TV VOL +].

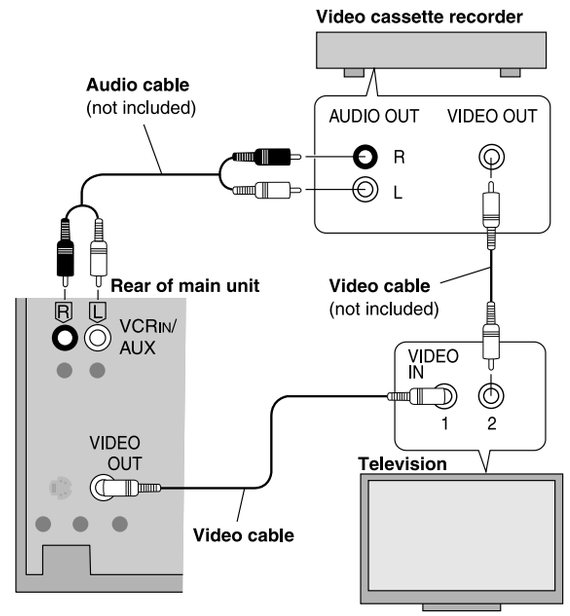
Playing the television through this unit's speakers



Reduce the volume on the television to minimum and control the volume on this unit.

Operating a video cassette recorder

Connection example



Preparation

- Face the remote control at this unit and press [VCR/AUX]. The button lights and "VCR/AUX" appears on the unit's display. You can operate the video cassette recorder.
- Change the video input mode on the television ("VIDEO 2" in the example).
- Face the remote control at the video cassette recorder for the following operations.

■ Turning the video cassette recorder on/off

Press [⏻, AV SYSTEM].

■ Play, pause and stop

Press [▶], [❚❚] or [■].

■ Fast forward and rewind

Press [◀◀] or [▶▶].

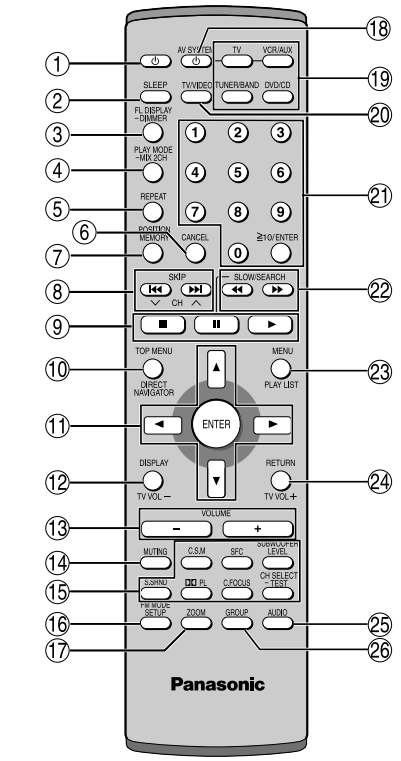
You can connect a laser disc or record player instead of a video cassette recorder.

Connect as shown above and select "VCR/AUX" as the source.

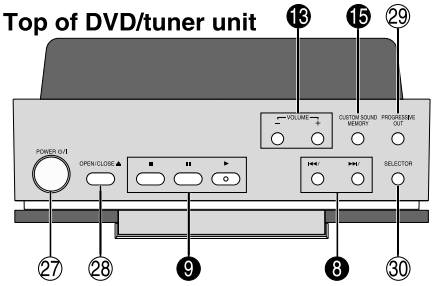
When connecting a record player

We recommend using a record player with a built-in phono equalizer.
If your player doesn't have a built-in equalizer, connect it first to a separate equalizer and then connect that to this unit.

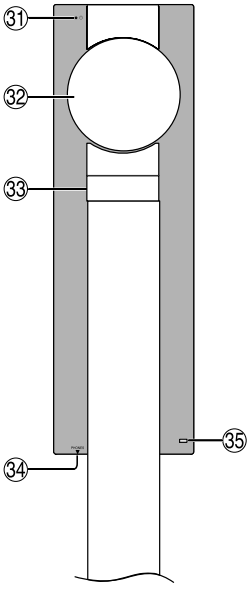
● The illustration shows SA-ST1PP.



Top of DVD/tuner unit



DVD/tuner unit



Remote control

① **Standby/on switch [⏻]**
② **Sleep button [SLEEP]**
③ **FL display, Dimmer button [FL DISPLAY, –DIMMER]**
④ **Play mode, Mix 2ch button [PLAY MODE, –MIX 2CH]**
⑤ **Repeat button [REPEAT]**
⑥ **Cancel button [CANCEL]**
⑦ **Position memory button [POSITION MEMORY]**
⑧ **Skip, Preset channel, TV channel buttons [|◀◀ ▶▶| SKIP, ∨CH∧]**
⑨ **Basic operation buttons**
⑩ **Top menu, Direct navigator button [TOP MENU, DIRECT NAVIGATOR]**
⑪ **Cursor buttons [▲, ▼, ◀, ▶], Enter button [ENTER]**
⑫ **Display, TV volume down button [DISPLAY, TV VOL –]**
⑬ **Volume buttons [–, +, VOLUME]**
⑭ **Muting button [MUTING]**
⑮ **Sound field, sound quality buttons**
⑯ **FM mode, Setup button [FM MODE, SETUP]**
⑰ **Zoom button [ZOOM]**
⑱ **AV system standby/on button [⏻, AV SYSTEM]**
⑲ **Source select buttons**
- Face towards this unit to change the source.
- Press [TV] or [VCR/AUX] first to operate a Panasonic television or video cassette recorder.

⑳ **For SA-ST1PP**
TV/VIDEO button [TV/VIDEO]
Except for SA-ST1PP
TV/AV button [TV/AV]

㉑ **For SA-ST1PP**
Numbered buttons [1–9, 0, ≧10/ENTER]
Except for SA-ST1PP
Numbered buttons [1–9, 0, ≧10/–/––]

㉒ **Slow/search, Tuning buttons [◀◀, ▶▶ SLOW/SEARCH]**
㉓ **Menu, Play list button [MENU, PLAY LIST]**
㉔ **Return, TV volume up button [RETURN, TV VOL +]**
㉕ **Audio button [AUDIO]**
㉖ **Group button [GROUP]**

DVD/tuner unit

Buttons ❽, ❾, ⓲ and ⓯ function the same as the controls on the remote control.

㉗ **For SA-ST1PP**
Standby/on switch [POWER ⏻ /I]
Except for SA-ST1PP
Standby/on switch [⏻ /I]
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.

㉘ **Open/close button [OPEN/CLOSE ⏏]**

㉙ **For SA-ST1PP**
Progressive out button [PROGRESSIVE OUT]
Except for SA-ST1PP
RDS button [RDS]

㉚ **Source select button [SELECTOR]**
㉛ **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.
㉜ **Loading tray**
㉝ **Display**
㉞ **Headphone jack [PHONES]**
㉟ **Remote control signal sensor**

Parts Change Notice

Model No.
SA-ST1PP
SA-ST1EB
SA-ST1EG

Please revise the original parts list in the Service Manual to conform to the change(s) shown herein.
If new part numbers are shown, be sure to use then ordering parts.

Reason for Change

*The circled item indicates the reason. If no marking, see the Notes in the bottom column.

	1. Improve performance
	2. Change of material or dimension
	3. To meel approved specification
	4. Standardization
	5. Addition
	6. Deletion
●	7. Correction
	8. Other

Interchangeability Code

**The circled item indicates the interchangeability. If no marking, see the Notes in the bottom column.

	Parts		Set Production	
	A	Original New	Early Late	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
	B	Original New	Early Late	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
	C	Original New	Early Late	New parts only may be used in early or late production sets. Stock new parts.
	D	Original New	Early Late	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
●	E	Other		

Part Number

Model No.	Ref. No.	Original Part No.	New Part No.	Notes	Part Name & Descriptions
SA-ST1PP/EB/EG	45-12	RXQ1001	RMR1504-K	7-E	LOCK PLATE

File this Parts Change Notice with your copy of the Service Manual.

Panasonic

AD0306523S5

A6

Service Manual

DVD/Tuner unit

- SA-ST1PP
  SA-ST1EB
  SA-ST1EG

Colour

(S).....Silver Type

Subject: To inform the correction of Part No. (Power supply jig) in “Operation Checks and Disassembly Procedures”.

Please use this supplement manual together with the service manual for Model No. SA-ST1PP,
SA-ST1EB, SA-ST1EG, Order No. AD0303071C5.

⚠ 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.

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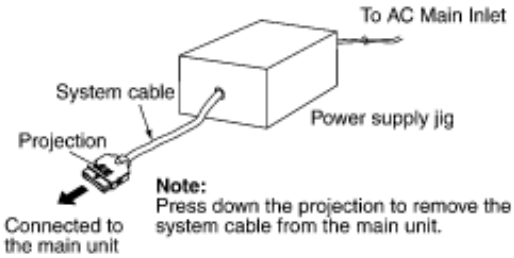
1 Purpose

This is to inform the correction of Part No. (Power supply jig) in original service manual of item 15. [To supply power source to main unit] in “Operation Checks and Disassembly Procedures”.

2 Operation Checks and Disassembly Procedures

When Active sub woofer is not prepared, use the power supply jig to check this unit as shown below.
[Part No.] RFKZ0182 (110 V, 127 V, 220 V, 230 - 240 V for overseas domestic use)


To AC Main Inlet
System cable
Power supply jig
Projection
Connected to
the main unit
Note:
Press down the projection to remove the
system cable from the main unit.

F0306KH

TOP