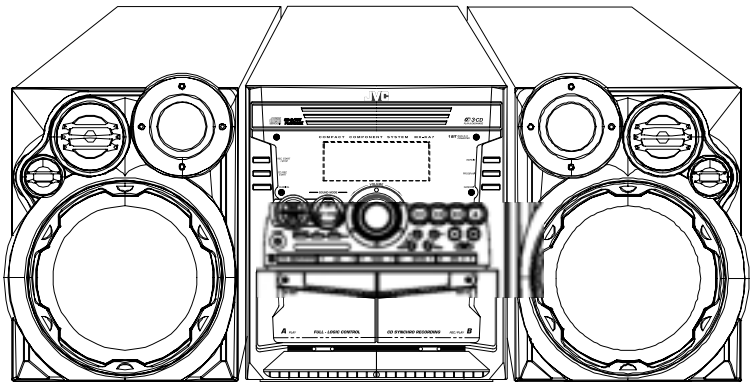
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

MX-KA7



SP-MXKA7 CA-MXKA7 SP-MXKA7

COMPACT disc DIGITAL AUDIO

Area Suffix

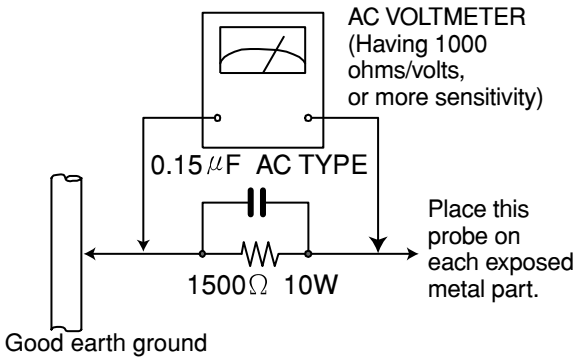
JW ..... Mexico, Panama

Contents

No. MB039
2003/11

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured Any must not exceed 0.75 V AC(r.m.s.). This corresponds to 0.5 mA AC(r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

⚠CAUTION

Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.

Preventing static electricity

1. Grounding to prevent damage by static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

2. About the earth processing for the destruction prevention by static electricity

In the equipment which uses optical pick-up (laser diode), optical pick-up is destroyed by the static electricity of the work environment.

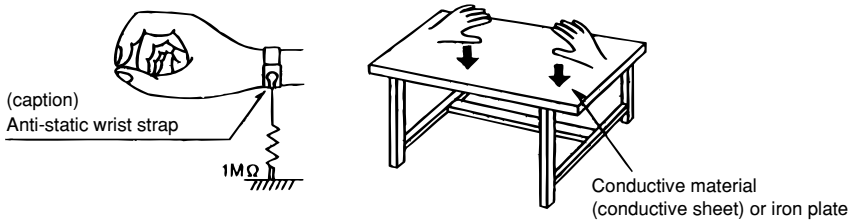
Be careful to use proper grounding in the area where repairs are being performed.

2-1 Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

2-2 Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



3. Handling the optical pickup

1. In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
2. Do not use a tester to check the condition of the laser diode in the optical pickup. The testers internal power source can easily destroy the laser diode.

4. Handling the CD changer unit (optical pickup)

1. Do not subject the CD changer unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
2. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the CD changer unit. Be careful not to take too long a time when attaching it to the connector.
3. Handle the flexible cable carefully as it may break when subjected to strong force.
4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

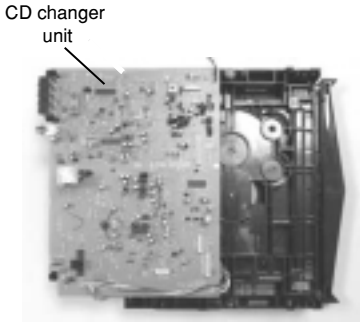


Fig.1

Attention when traverse unit is decomposed

*** Please refer to "Disassembly method" in the text for pick up and how to detach the CD changer mechanism.**

1. Remove the CD changer unit.
2. Disconnect the harness from connector on the CD motor board.
3. Solder is put up before the card wire is removed from connector Cn601on the main board as shown in Fig.1 and Fig. 2. (When the wire is removed without putting up solder, the CD pick-up assembly might destroy.)
4. Please remove solder after connecting the card wire with CN601 when you install picking up in the substrate.

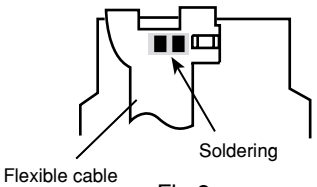


Fig.2

Important for laser products

1. **CLASS 1 LASER PRODUCT**
2. **DANGER :** Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION :** There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. **CAUTION :** The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. **CAUTION :** If safety switches malfunction, the laser is able to function.
6. **CAUTION :** Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

⚠CAUTION Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)

VARNING : Synlig och osynlig laserstrålning när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interiocken fejler. Undgå direkte eksponering til stråling. (d)

VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersätellylle. Vältä säteen kohdistumista suoraan itseesi. (f)

FUSE CAUTION

CAUTION:
REPLACE WITH SAME TYPE
AND RATING FUSE (S).
ATTENTION:
REMPLACER PAR UN(LES)
FUSIBLE(S) DE MÊME TYPE
ET DE MÊME VALEUR

Disassembly method

Commence disassembly of the set by removing the main units and then proceed to the components and assemblies inside the units.

Replacement of the fuses and the power IC

- Top cover
- CD changer unit
- Front panel assembly
- Chassis unit

- CD changer unit
  - Removing the main PCB
  - Removing the CD changer mechanism assembly
  - Removing the CD pickup
  - Replacing the loading motor and belt of the CD changer tray
  - Replacing the CD tray rotor belt of CD changer, and removing the motor

- Front panel assembly
  - Removing the cassette deck mechanism
  - Removing the earphone jack PCB
  - Removing the control/FL PCB
  - Removing the switch PCB and ACTIVE BASS EX. switch PCB
  - Removing the cassette deck main motor, and replacing the main belts
  - Removing the leaf switches of the cassette deck mechanism
  - Removing the cassette deck heads

- Chassis unit
  - Removing the 3-pin regulator
  - Removing the power amp and supply PCB and the Power Trans PCB
  - Removing the sub power PCB

<Disassembly of the main blocks of the set>

Replacement of the fuses and the power IC

■ Replacing the fuses (See Fig.1)

- Prior to performing the following procedure, remove the top cover.

1. Replace the fuses inside.

[Caution] Be sure to use fuses with the specified ratings.

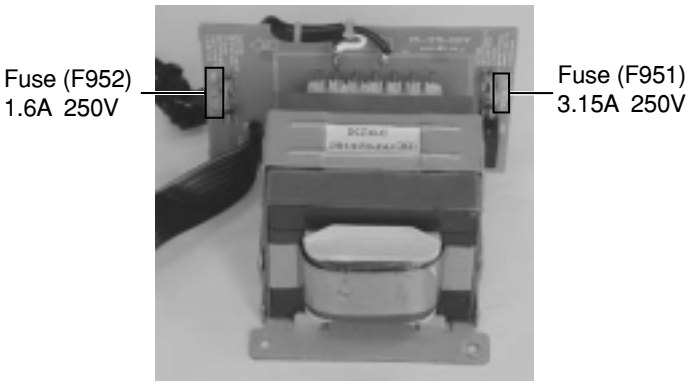


Fig.1

■ Replacing the power IC (See Fig.2)

- Prior to performing the following procedure, remove the top cover.

1. Remove the two screws **A** from the heat sink between the power IC.
2. Remove the solder fixing the power IC.

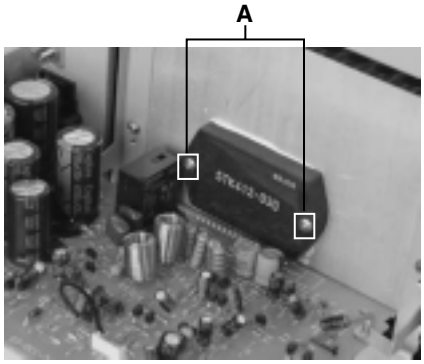


Fig.2

■ Replacing the heat sink cover (See Fig.3)

1. Remove four screws **B** from the rear panel.
2. Pull the heat sink cover outward.

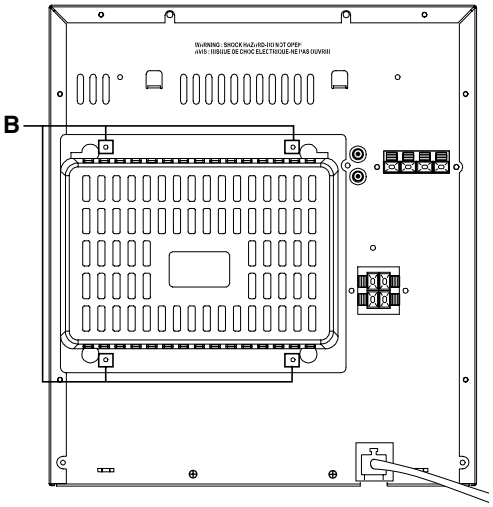


Fig.3

■ Removing the top cover

(See Fig.4 and 5)

1. Remove six screws **C** that retain the top cover from the panel rear of the body.
2. Remove six screws **D** that retain the top cover from the two sides of the body.
3. Remove the top cover from the body by lifting it toward the rear.

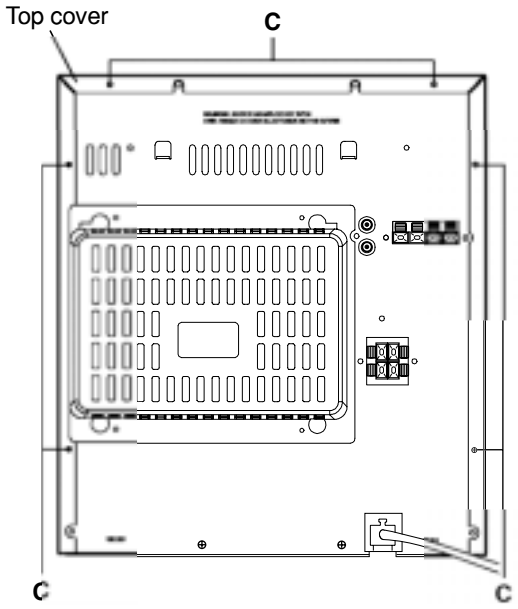


Fig.4

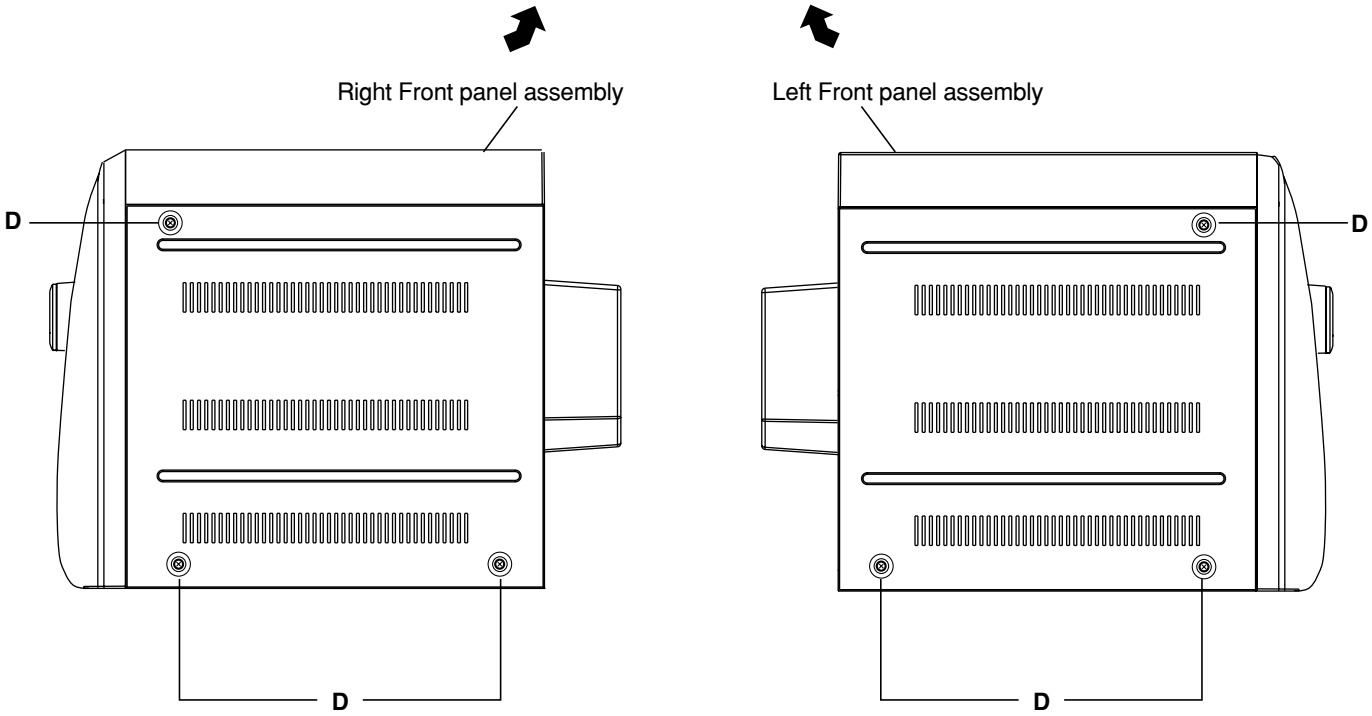


Fig.5

■ Removing the CD changer unit (See Fig.6 to 9)

- Prior to performing the following procedures, remove the top cover.

[Caution] Although the CD mechanism unit can be removed without removing the CD tray panel, it is still recommended to remove it in order to prevent damage.

a. From the front panel side of this set, push in the sections marked with arrows and pull out the CD tray toward the front.
b. Remove the CD tray panel by pushing both of its extremities upward in the direction of the arrows.
c. Push the CD tray deep into the set.

1. Disconnect the cord wires from the CD PCB CN703 and CN203.
2. From the rear of the set, remove two screws **E** three screws **F** and four screws **G** on the front panel left and right side.
3. Handle the CD changer unit rear, take out the unit.

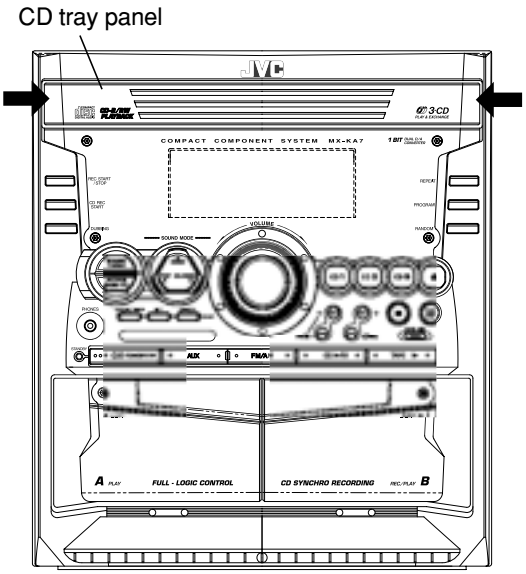


Fig.6

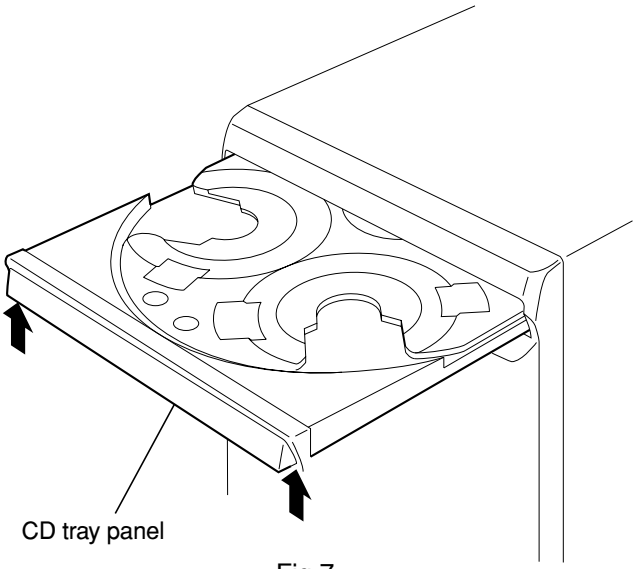


Fig.7

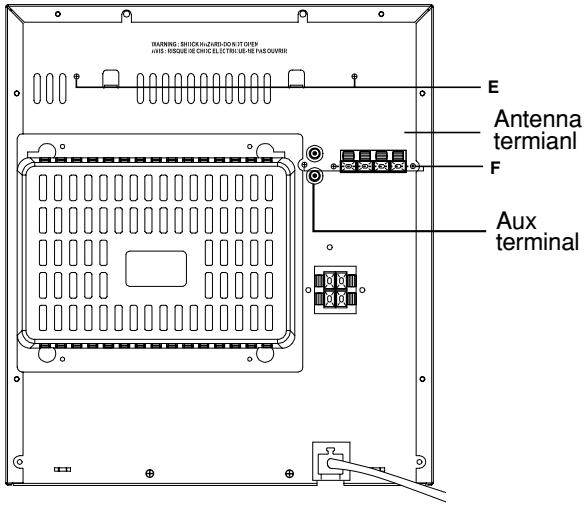


Fig.8

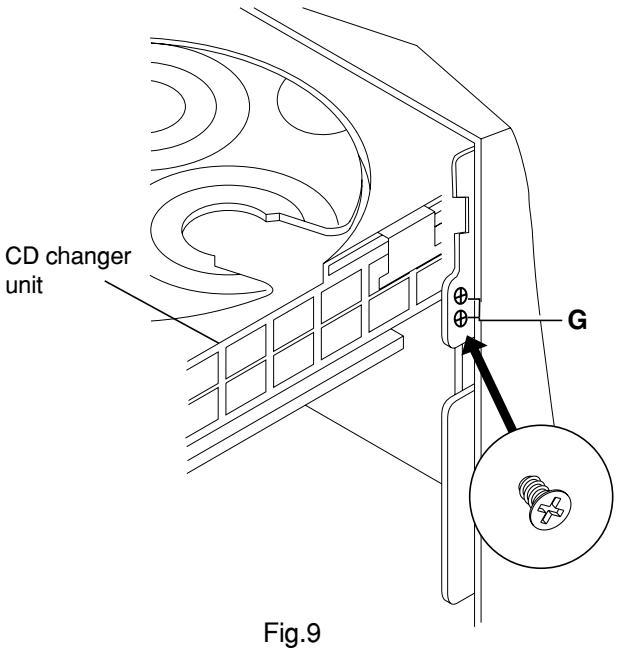


Fig.9

■ Removing the front panel assembly (See Fig.10 to 11)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

1. Disconnect the parallel wire and the cord wire from the connectors CN701, CN101 on the power amp. PCB.
2. Remove one screws **H** retaining the front panel assembly onto the bottom of the body.
3. Remove two screws **I** on the left and right side of the set retaining the panel front from the bottom and then remove then GND lug **b** that comes from the power amp and supply PCB.
4. Disengage the claws **c** on both sides of the front panel assembly and then remove the assembly.

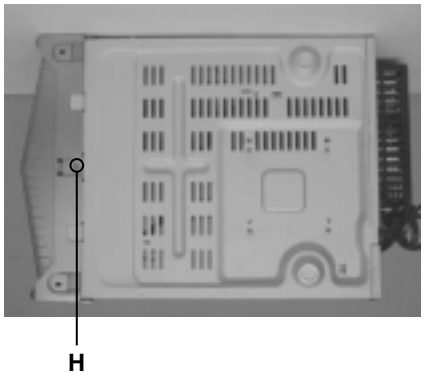


Fig.10

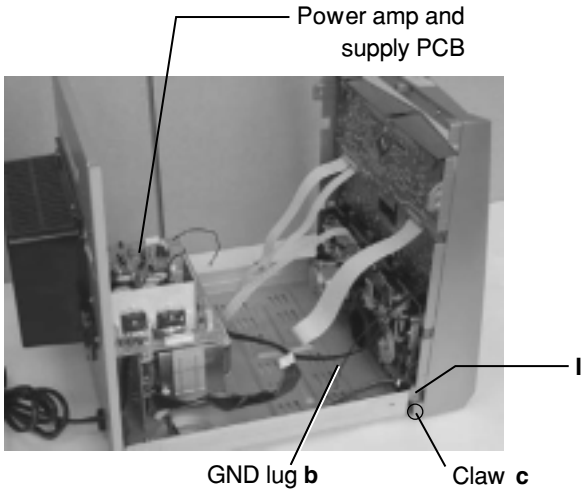


Fig.11

<Disassembly of units and assembly inside this set>

■ Removing the CD PCB

(See Fig.12 to 13)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

1. Disconnect the wires from CN603A, CN603B and CN604 on the CD PCB, which is located on the back side of the CD changer unit.
2. The four screws **J** that retain the CD PCB should be removed.
3. Remove the CD PCB by pulling it toward the side where the CN601 is located.
4. Using solder, short the CD pickup to connect to short round.

[Caution] After re-connecting the wires, be sure to remove the shorting solder from the GND connection.

5. Disconnect the card wire from the connector CN601 on the main PCB and then remove the main PCB.

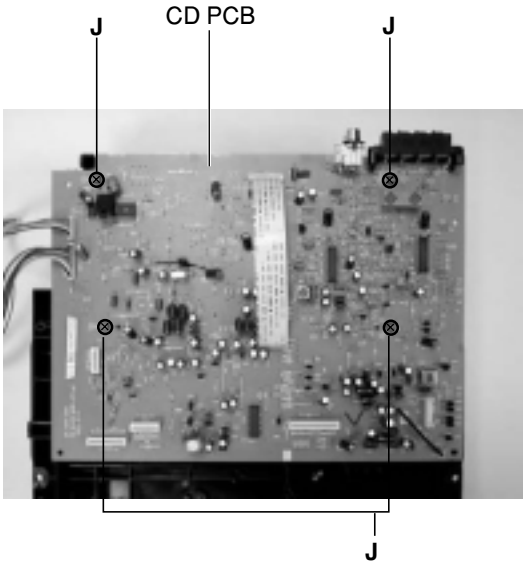


Fig.12

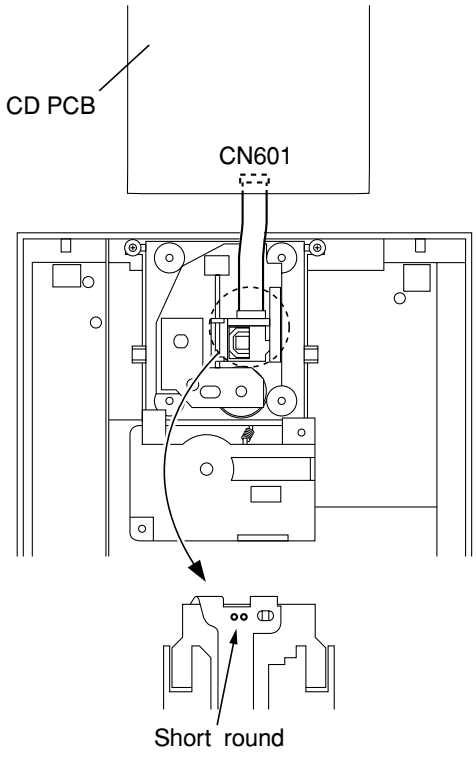


Fig.13

■ Removing the CD changer mechanism assembly (See Fig.14 to 15)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

1. Turn the CD changer mechanism cover base and remove the screws **d** connecting the unit to the CD changer mechanism assembly.
2. Removing four screws **e** retaining the CD mechanism holder assembly.

[Caution] When replacing the CD changer mechanism assembly, be sure not to mistake the positions of the silver color and copper color spring.

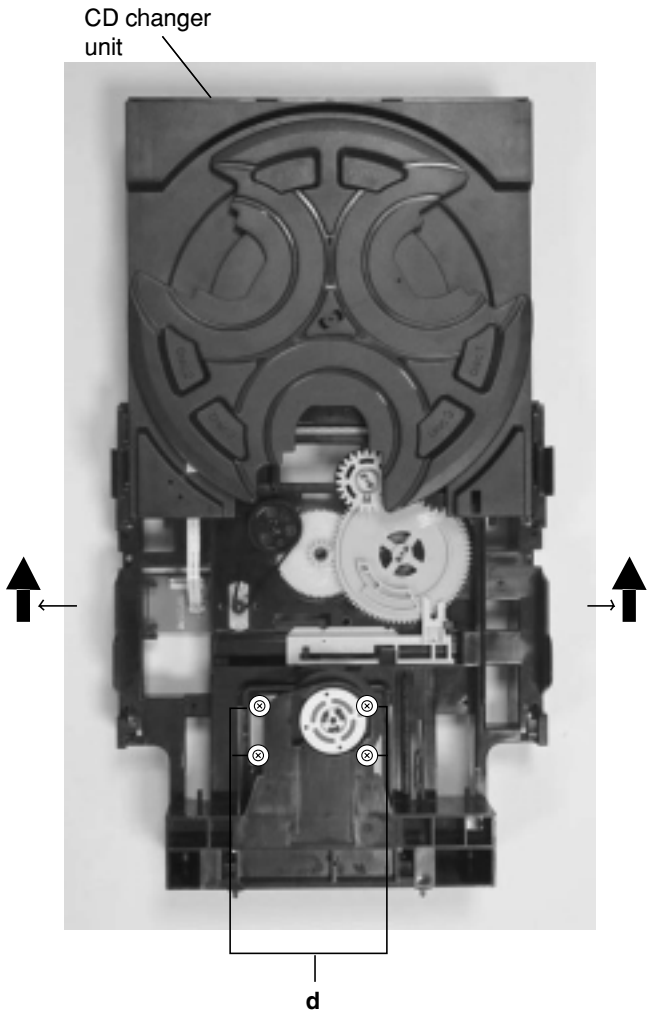


Fig.14

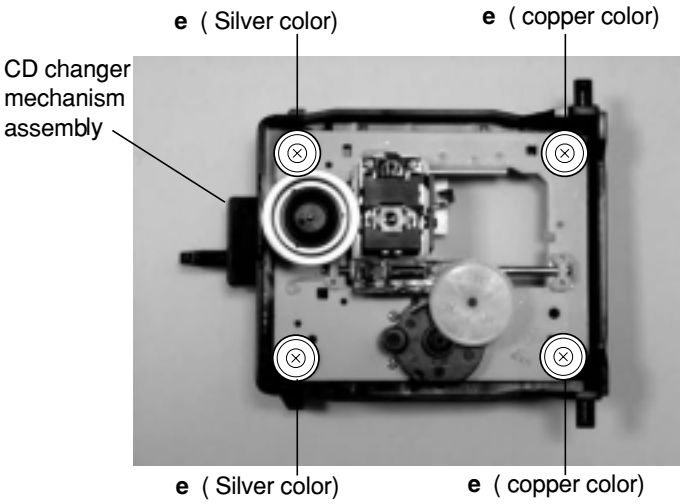


Fig.15

■ Removing the CD pickup (See Fig.16)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the CD changer mechanism.

1. Widen the section **f**.
2. While keeping the section **f** wide open, push the section **g** in the direction of the arrow to remove the shaft, and then remove the CD pickup.

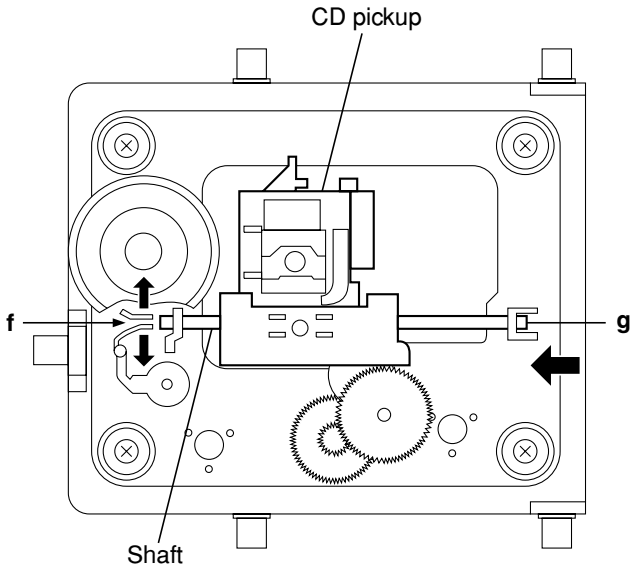


Fig.16

■ Replacing the loading motor and rotor belt of the CD changer (See Fig .17)

- Prior to performing the following procedures, remove the top cover.
- Also open the CD changer tray.

1. Remove the two screws **L** retaining the CD changer tray loading motor.
2. Remove the two screws **M** retaining the gear plate and take it out, after remove the rotor belt from the pulley.

■ Replacing the CD turn table and removing the motor (See Fig. 19)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.

1. Remove the one screws **N** retaining the CD (Turn table).
2. Remove the two screws **O** retaining the stopper brackets on both sides of the CD changer unit.
3. Remove the stopper brackets from both sides of the CD changer unit.
4. Pull out the CD tray from the CD changer unit, all the way and lift the tray (u/~ ward) to remove.
5. Remove the gear and after push out the tray motor locker and pull out the tray motor from the CD tray.

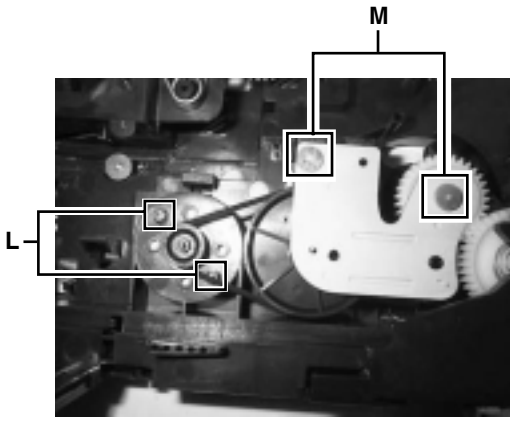


Fig.17

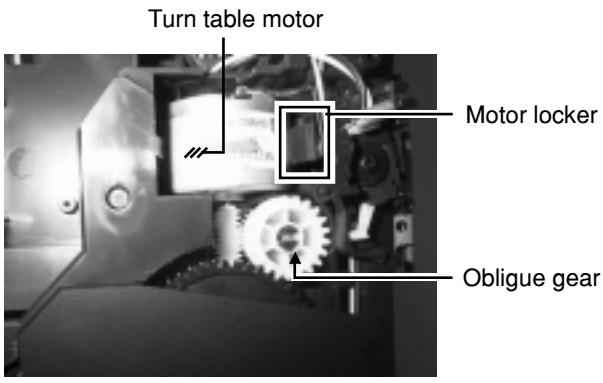


Fig.18

■ Removing the cassette deck mechanism (See Fig.19)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Remove six screws **Z** retaining the cassette deck mechanism.

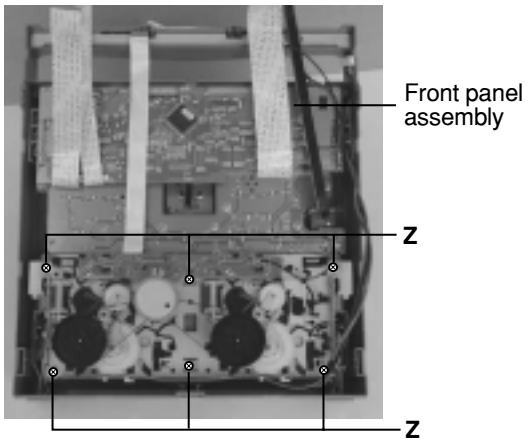


Fig.19

■ Removing the earphone jack PCB (See Fig.20)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Remove the screw with the washer, **P** that retains the earphone jack PCB.

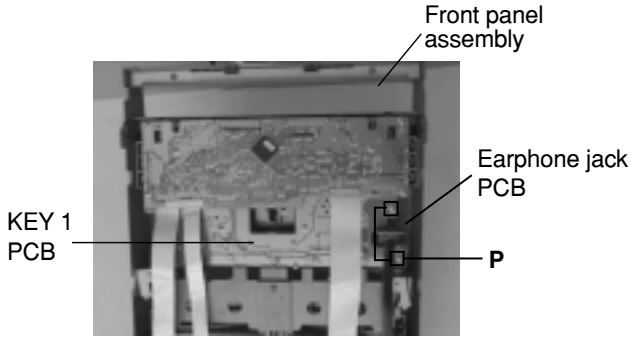


Fig.20

■ Removing the control/FL PCB (See Fig.21)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Remove six screws **Q** that retain the control/FL PCB from the back of the front panel unit.

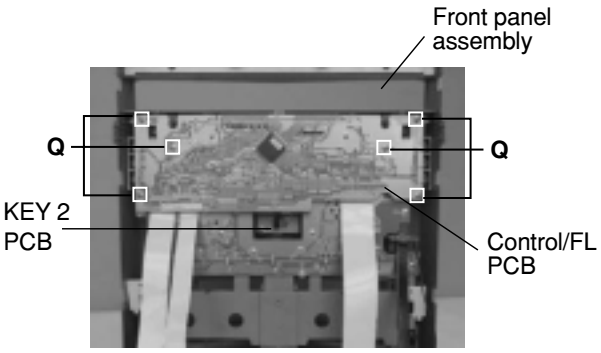


Fig.21

■ Removing the switch PCB and sound mode and CD function switch PCB (See Fig.20 to 23)

- Prior to performing the following procedures, remove the top cover.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Pull out the volume control knob from the front of the front panel assembly.(Fig.22)
2. Remove six screws **Q** retaining the front panel assembly.(Fig.21)
3. Remove the control/FL PCB.
4. Remove eleven screws **R** retaining the switch (key 1) PCB.(Fig.20)
5. Remove two screws **S** retaining the sound mode and CD function (key 2) switch PCB.(Fig.21)

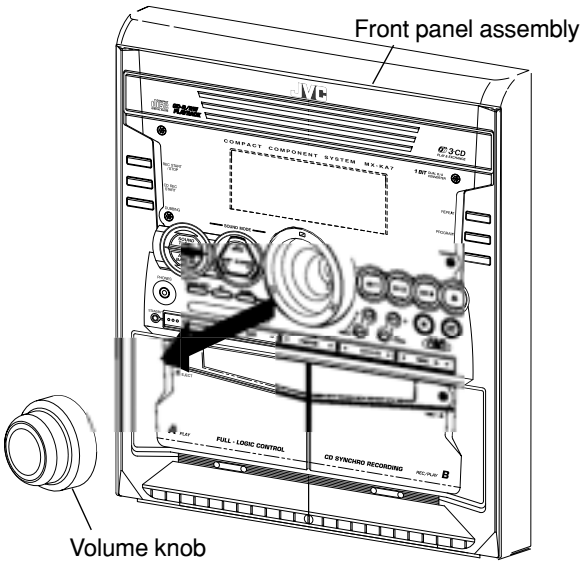


Fig.22

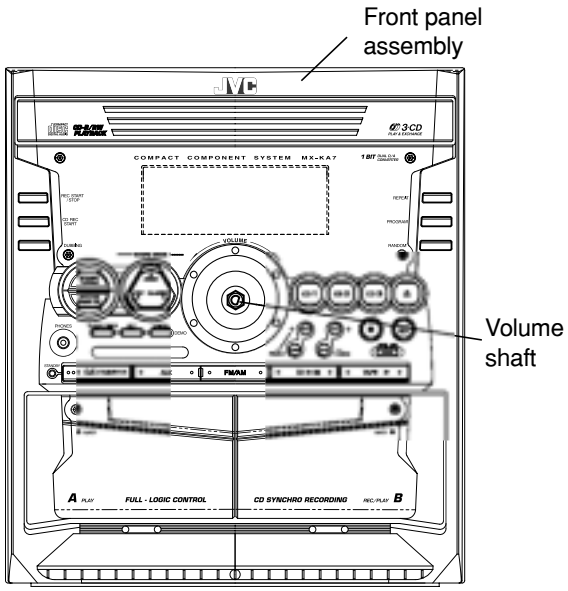


Fig.23

■ Removing the cassette deck main motor, and replacing the main belts (See Fig.19, 24 and 25)

- Prior to performing the following procedures, remove the top cover and both sides board.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Remove six screws **Z** retaining the cassette deck mechanism. (Fig.19)
2. Remove the cassette deck mechanism.
3. Remove two screws **t** retaining the main motor from the front side of the cassette deck.

[Caution] After attaching the main motor, check the orientation of the motor and the polarity of the wires.

4. From the backside of the cassette deck, remove the main motor and two main belts.

[Caution] The lengths of the cassette A(playback only) and cassette B(record/play) main belts are different. When attaching the main belts, use the longer belt for cassette **A**.

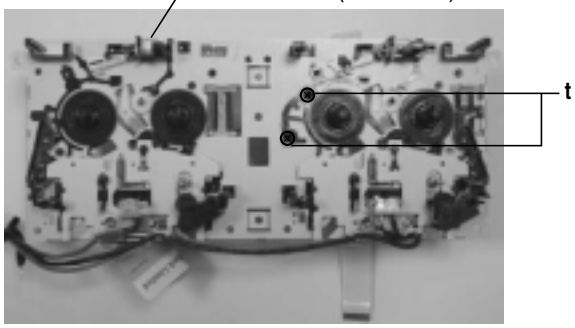


Fig.24

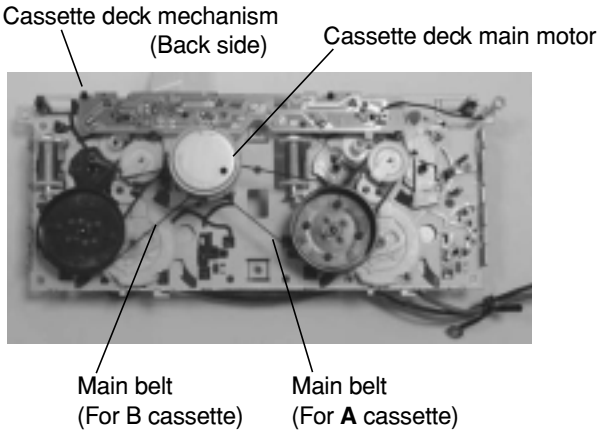


Fig.25

■ Removing the leaf switches of the cassette deck mechanism (See Fig. 19 and 26)

- Prior to performing the following procedures, remove the top cover and both sides board.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Remove the six screws **Z** that retain the cassette deck mechanism. (Fig.19)
2. Remove the cassette deck mechanism.
3. Turn the cassette deck mechanism upside down.
4. Remove the solder from around the leaf switches.
5. Pull out the leaf switches from the front side of the cassette deck mechanism.

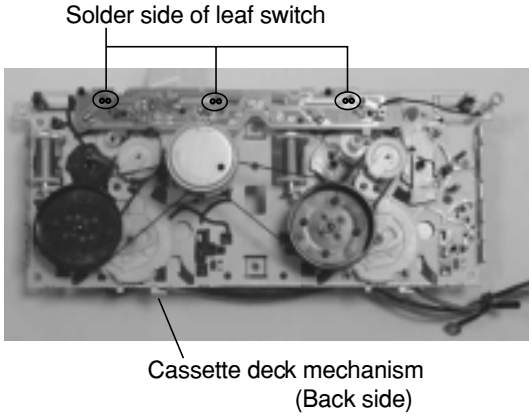


Fig.26

■ Removing the cassette deck heads (See Fig. 19 and 27)

- Prior to performing the following procedures, remove the top cover and both sides board.
- Also remove the CD changer unit.
- Also remove the front panel assembly.

1. Remove six screws **Z** that retain the cassette deck mechanism. (Fig.19)
2. Remove the cassette deck mechanism and place it so that the front side faces up.
3. Remove the solder from the bottom side of the head terminal and disconnect the wire.
4. Remove screw **U** that retains the head.
5. Remove screw **V** that retains the head.
6. Hold the head and slide it in the direction of the arrow to remove it.

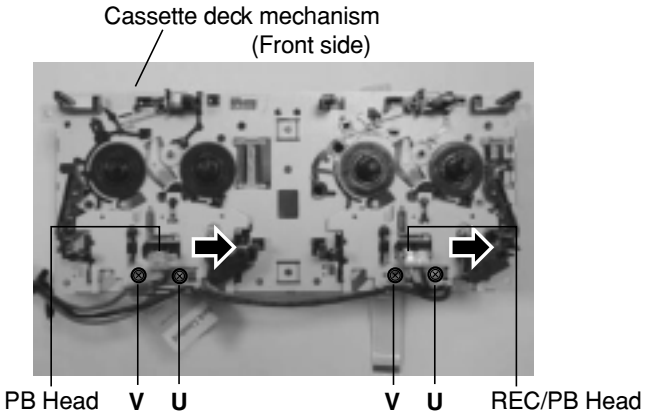


Fig.27

■ Removing the 3-pin regulator and bridge diode (See Q904, Q907, D901, D914 and Fig.28)

- Prior to performing the following procedures, remove the top cover and both sides board.

1. Remove two screws **A** that connect the heat sink.
2. Remove two screws **W** that connect the heat sink.
3. Remove the solder fixing the the 3-pin terminal regulator Q904, Q907.
4. Remove the solder fixing the 4-pin bridge diode (D901, D914).

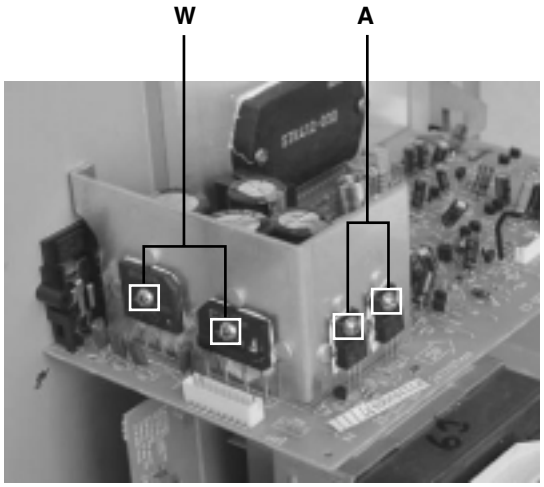


Fig.28

■ Removing the power amp and supply PCB and the power trans PCB

(See Fig. 2, 29 to 31)

- Prior to performing the following procedures, remove the top cover and CD changer unit.

1. Remove four screws **B** from the rear panel. (Fig.3)
2. Pull the heat sink cover outward.
3. Remove four screws **AA** from the rear panel between the heat sink holder.
4. Remove two screws **X** that retain the speaker terminals and AUX terminal.
5. Remove screws **YY** that retains the rear panel, and then remove the rear panel.
6. Disconnect the parallel wires from the connectors FW951 on the power trans PCB.
7. Remove the clamp of AC power cord from the chassis.
8. Remove four screws **AB** that retain the power trans PCB and then remove the assembly.

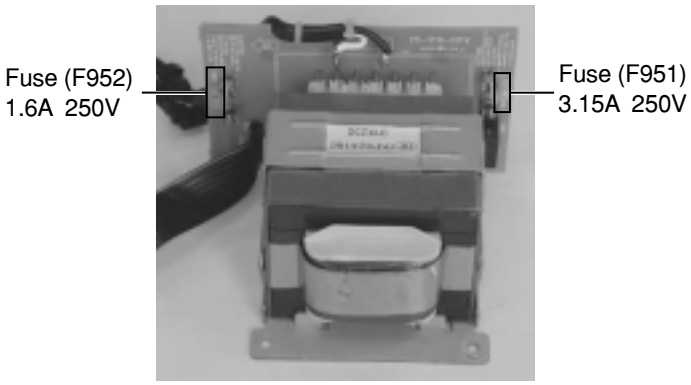


Fig.29

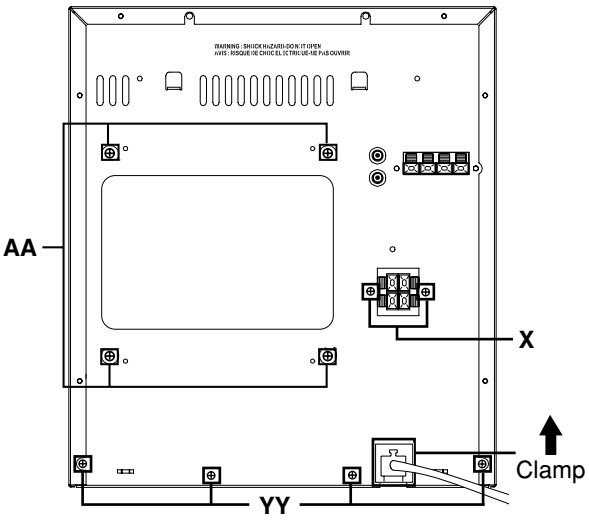


Fig.30

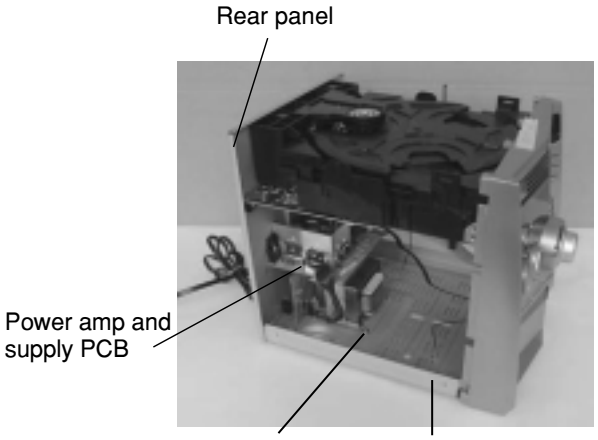


Fig.31

Adjustment method

Measurement instruments required for adjustment

1. Low frequency oscillator.
   This oscillator should have a capacity to output 0dB to 600ohm at an oscillation frequency of 50Hz-20kHz.
2. Attenuator impedance : 600ohm
3. Electronic voltmeter
4. Frequency counter
5. Wow flutter meter
6. Test tape
   VT712 : For Tape speed and wow flutter (3kHz)
   VT703 : For Head angle (10kHz)
7. Blank tape
   TAPE Ⅰ : AC-225 TAPE Ⅱ : AC-514
8. Torque gauge : For play and back tension forward; TW2111A, Reverse; TW2121A Fast Forward and Rewind; TW2231A
9. Test disc: CTS-1000(12cm),GRG-1211(8cm)
10. Jitter meter

Measurement conditions

Power supply voltage
AC 120V (60Hz)

Measurement
output terminal : Speaker out
: TP101(Measuring for TUNER/ DECK/CD)
: Dummy load 6ohm

Radio input signal

AM modulation frequency : 400Hz
Modulation factor : 30%
FM modulation frequency : 1kHz
Frequency displacement : 22.5kHz

Frequency Range

AM 530kHz~1710kHz
FM 87.5MHz~108MHz

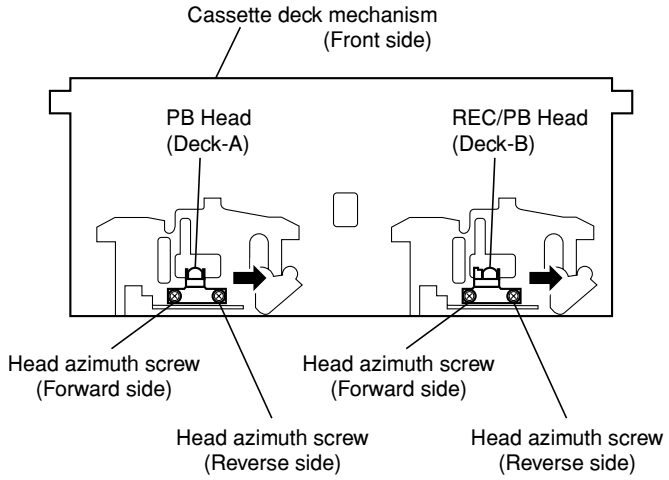
Standard measurement positions of volume and switch

Power : Standby (Light STANDBY Indicator)
Sound Turbo, A, BASS EX : OFF
Sound mode : OFF
Main VOL. : 0 Minimum
Travers mecha set position : Disc 1

Precautions for measurement

1. Apply 30pF and 33kohm to the IF sweeper output side and 0.082μF and 100kohm in series to the sweeper input side.
2. The IF sweeper output level should be made as low as possible within the adjustable range.
3. Since the IF sweeper is a fixed device, there is no need to adjust this sweeper.
4. Since a ceramic oscillator is used, there is no need to perform any MPX adjustment.
5. Since a fixed coil is used, there is no need to adjust the FM tracking.
6. The input and output earth systems are separated. In case of simultaneously measuring the voltage in both of the input and output systems with an electronic voltmeter for two channels, therefore, the earth should be connected particularly.
7. In the case of BTL connection amplifier, the minus terminal of speaker is not for earthing. Therefore, be sure not to connect any other earth terminal to this terminal. This system is of an OTL system.

■ Arrangement of adjusting positions



■ Tape recorder section

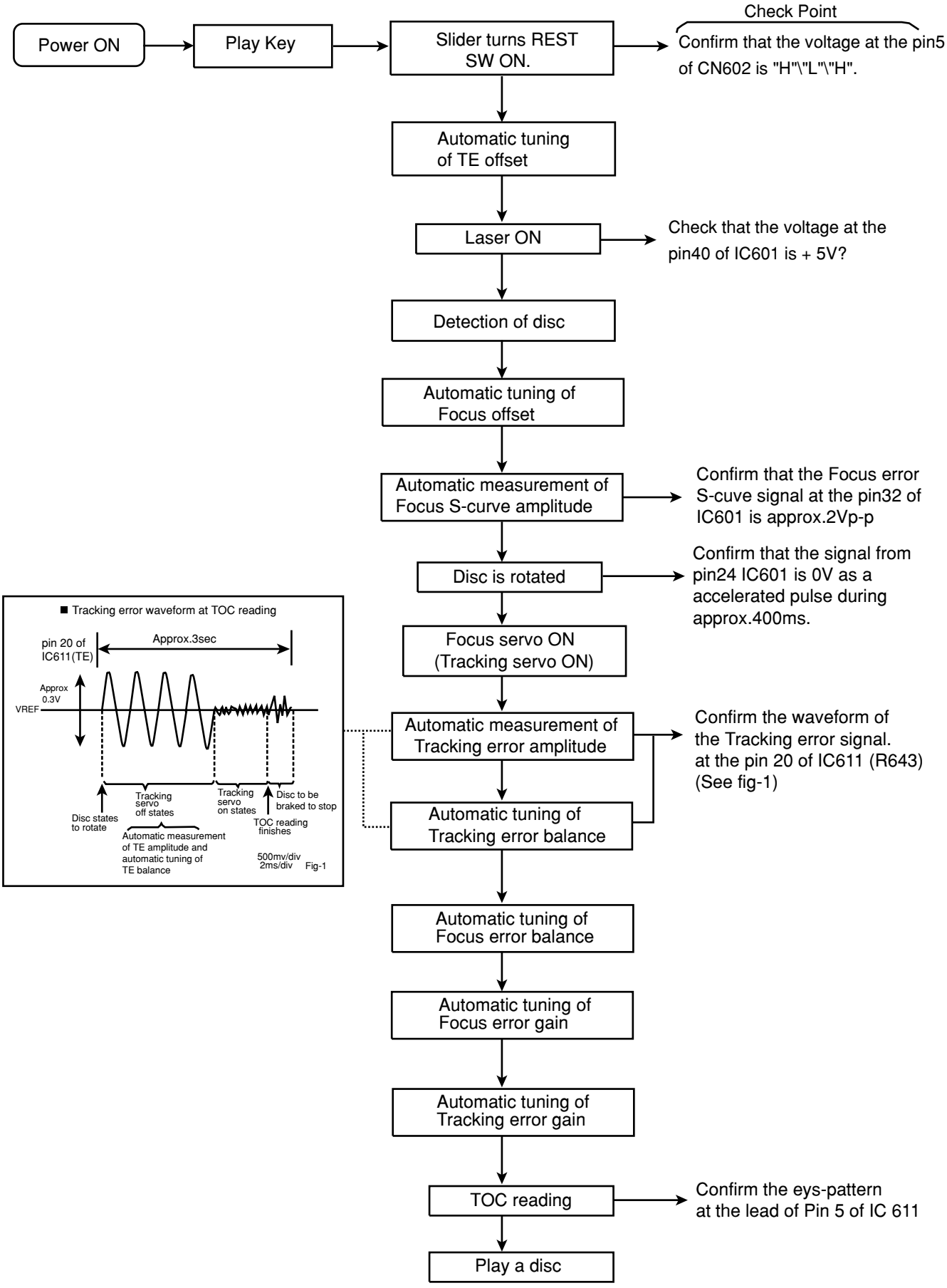
Items	Measurement conditions	Measurement method	Standard values	Adjusting positions
Cassette Head Azimuth Alignments	Test tape : VT703 (10kHz) Measurement output terminal : Left and Right speaker output (6-ohm loaded) or Headphone Output (32-ohm loaded)	1. Playback the test tape VT703 (10KHz) or equivalent. 2. Adjust the head azimuth screw to obtain maximum output and both output of L / R is in 3dB. 3. Put on the screw lock paint after alignments.	Maximum output	Adjust the head azimuth screw only when the head has been changed.
Recording Bias Frequency Alignment	Test tape : TYPE Ⅰ AC-514 Measurement output terminal : Erase head terminal (CN308 8-Pin)	1. Insert the recording tape in deck-B. 2. Starting the recording. 3. Adjust the oscillation frequency to 80KHz+/-3KHz by core of Oscillation coil of L301.	80kHz+/-3kHz	Use the High-Impedance Probe or Frequency counter input.

■ Tuner section

Items	Measurement conditions	Measurement method	Standard values	Adjusting positions
AM Tracking Alignments	Input signal : 530kHz 600kHz Adjustment point : Antenna coil (L2)	1. Set the Signal Generator signal to 530KHz the feed to Loop Antenna. 2. Receiving the signal and the adjust the OSC coil (L2) obtain the V.T is 1.40V +/-0.05V. 3. Change the receiving frequency to 600KHz (603KHz). 4. Adjust the Antenna coil (L2) obtain maximum sensitivity. (Adjust the SSG output to out of AGC range.)	V.T : 1.40V+/-0.05V Maximum sensitivity	Adjust the OSC coil only when the AM coil block has been changed.
AM IFT Alignments	Input signal : 530kHz Adjustment point : IFT (T1)	1. Set the receiving frequency to 530KHz. 2. Feed the 450KHz signal to AM antenna input. 3.Adjust the IFT Block T1 obtain to maximum output. (Adjust the SSG output to out of AGC range.)	Maximum output	Adjust the IFT only when the IFT block has been changed.

Note: The adjustment of CD section is not required.

Flow of functional operation until TOC read



Maintenance of laser pickup

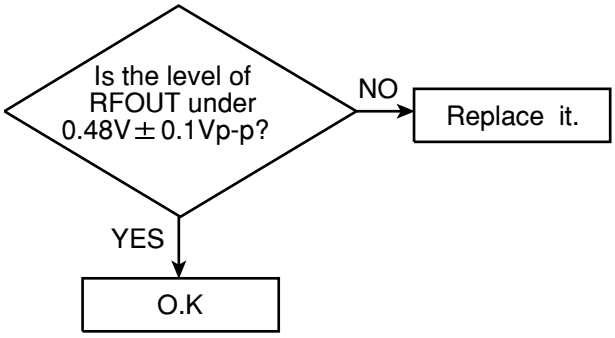
(1) Cleaning the pick up lens

Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

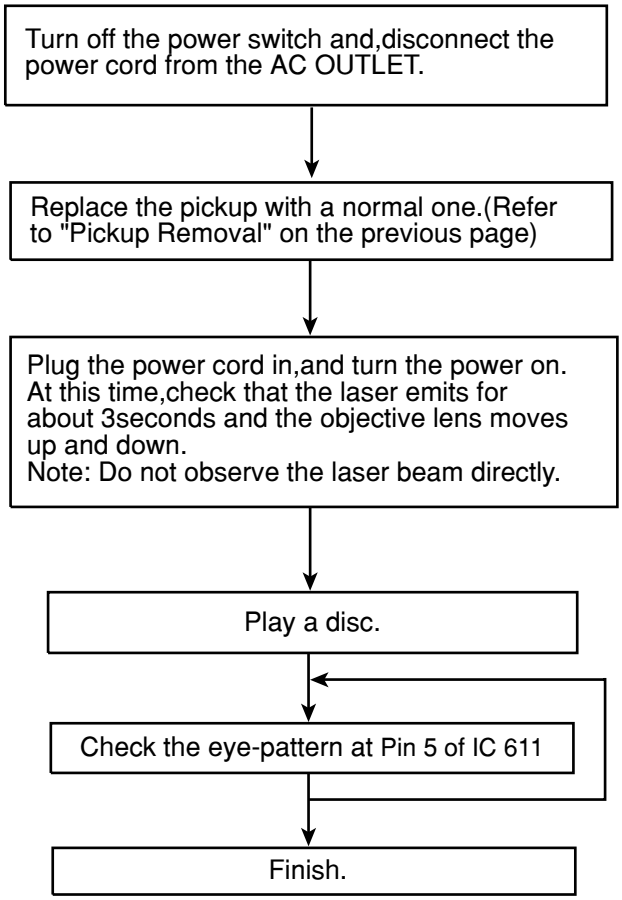
(2) Life of the laser diode

When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output : ampli tude of eye pattern) will below.



Replacement of laser pickup



(3) Semi-fixed resistor on the APC PC board

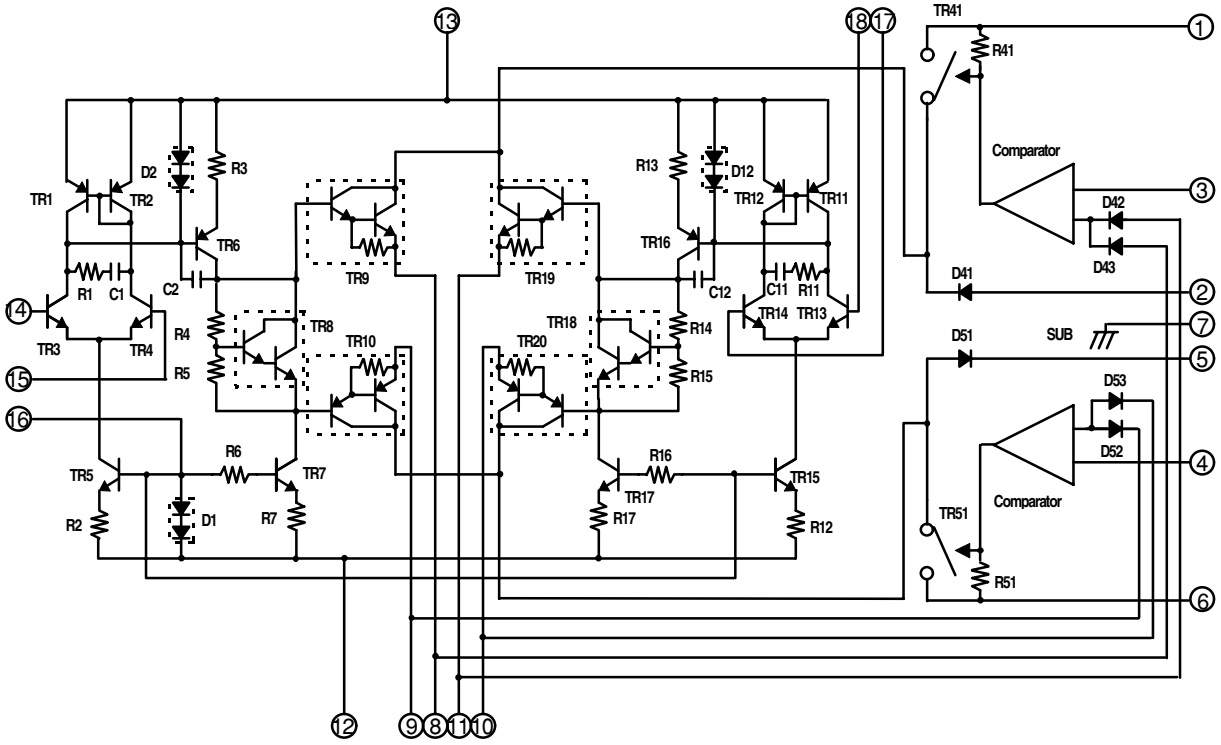
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power.Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

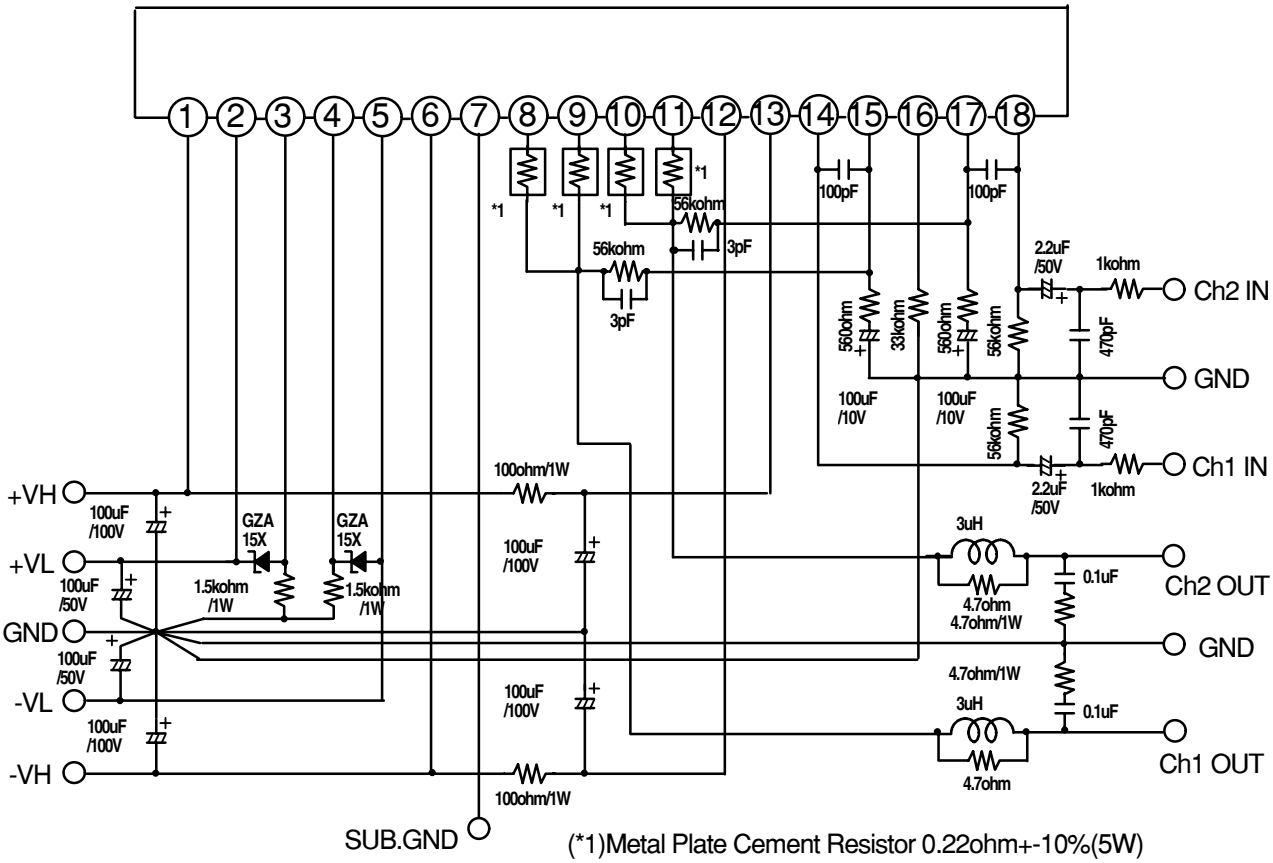
If the semi-fixed resistor would be adjusted when the pickup operates normally, the laser pickup may be damaged due to excessive current.

■ Description of major ICs STK412-030 (IC301) : Dual low noise operational

1. Block Diagram



2. Test Circuit



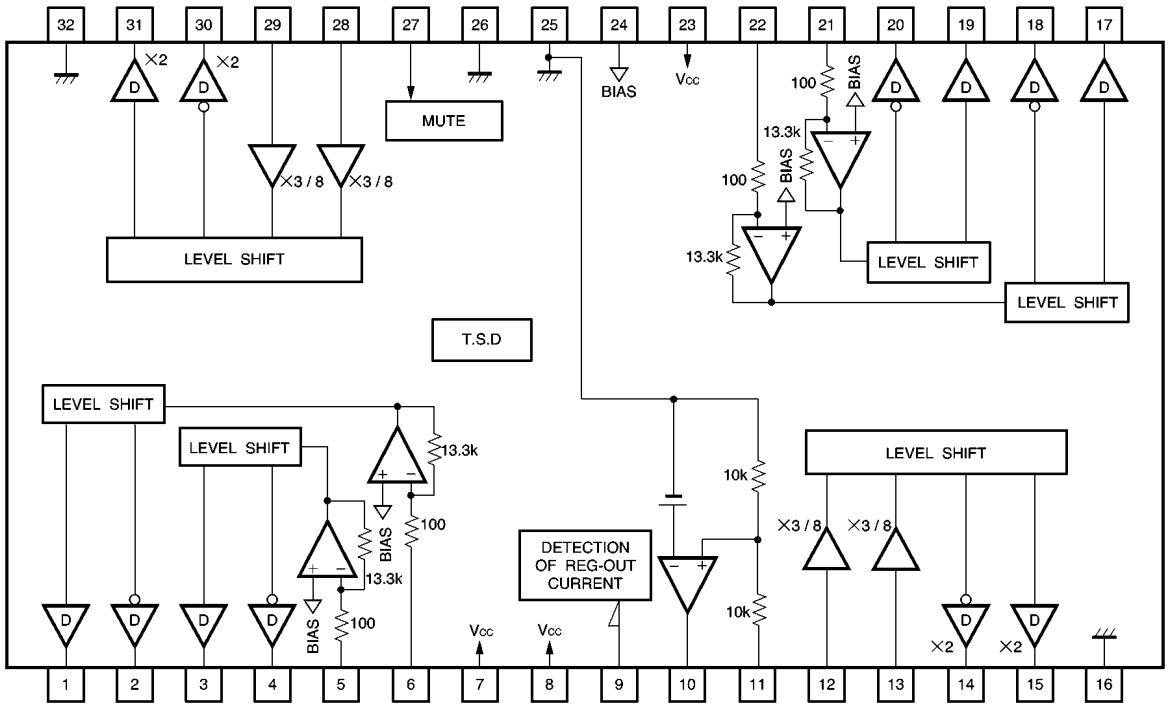
■ Optical disc ICs BA5936S. (IC621)

1. Pin descriptions

Pin No.	Pin name	Function	Pin No.	Pin name	Function
1	OUT1−	Channel 1 negative output	17	OUT4−	Channel 4 negative output
2	OUT1+	Channel 1 positive output	18	OUT4+	Channel 4 positive output
3	OUT2−	Channel 2 negative output	19	OUT5−	Channel 5 negative output
4	OUT2+	Channel 2 positive output	20	OUT5+	Channel 5 positive output
5	IN2	Channel 2 input	21	IN5	Channel 5 input
6	IN1	Channel 1 input	22	IN4	Channel 4 input
7	Vcc	Vcc	23	Vcc	Vcc
8	Vcc	Vcc	24	BIAS IN	Bias input
9	REG-I	Regulator current detector	25	GND	GND
10	REG-B	For connection to base of external transistor	26	GND	GND
11	REG OUT	Constant voltage output (connected to collector of external transistor)	27	MUTE IN	Mute input
			28	IN6-R	Channel 6 reverse input
12	IN3-R	Channel 3 reverse input	29	IN6-F	Channel 6 forward input
13	IN3-F	Channel 3 forward input	30	OUT6+	Channel 6 positive output
14	OUT3+	Channel 3 positive output	31	OUT6−	Channel 6 negative output
15	OUT3−	Channel 3 negative output	32	GND	GND
16	GND	GND			

Note 1: Positive output and negative output are the polarities with respect to the input.
Note 2: Loading positive output and loading negative output are the polarities with respect the mode.

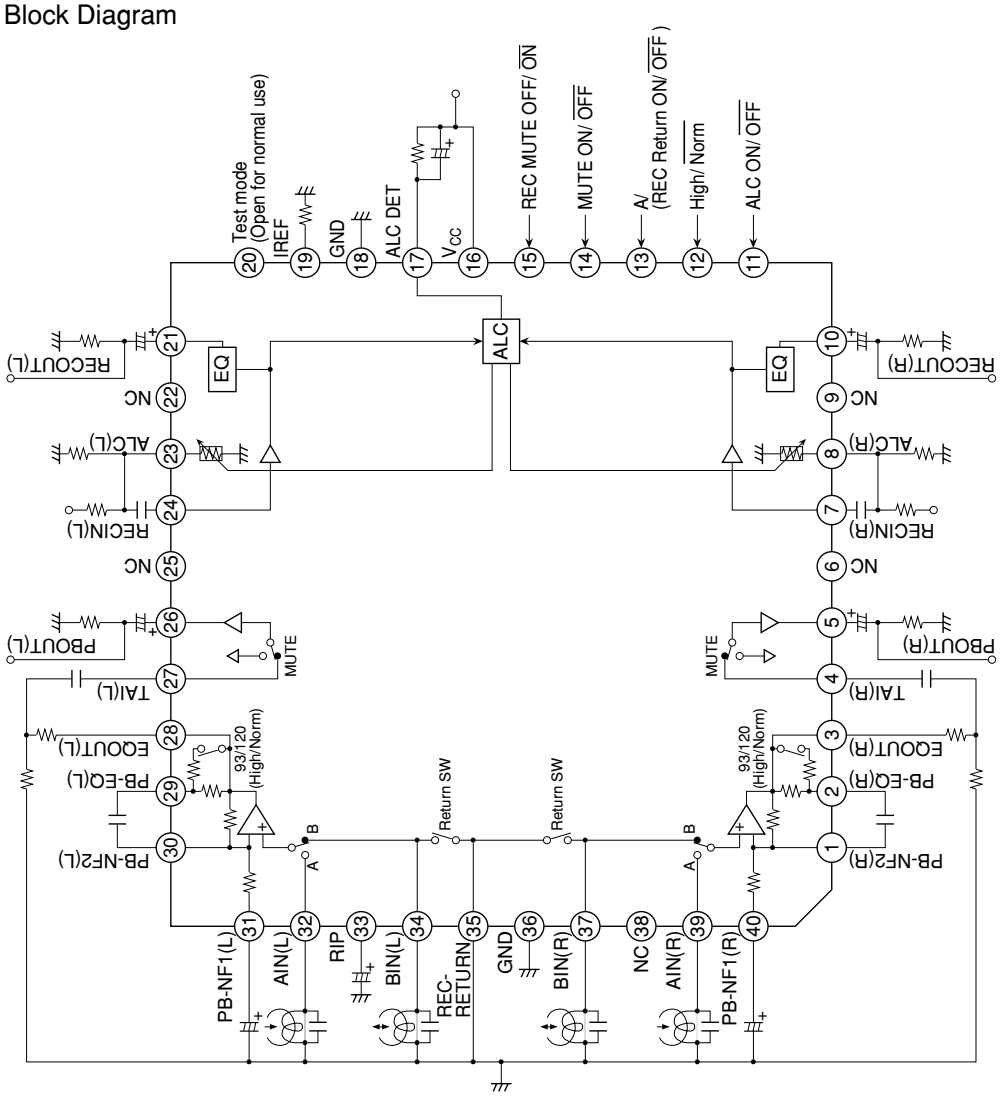
2. Block diagram



T.S.D.: Thermal shutdown
D: Drive buffer
Resistor units: (Ω)

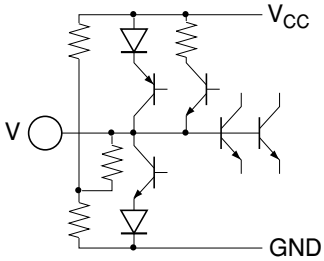
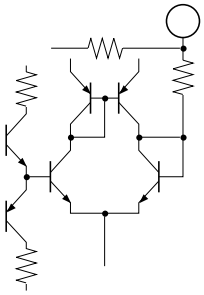
■ Optical disc ICs HA12237F (IC401)

1. Block Diagram



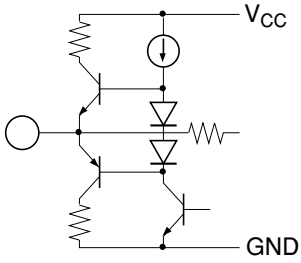
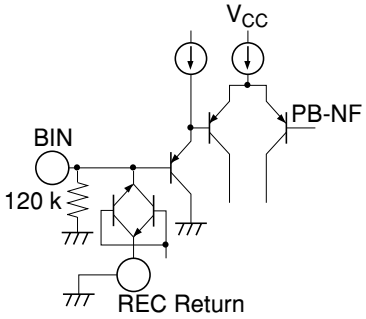
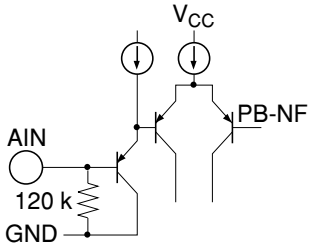
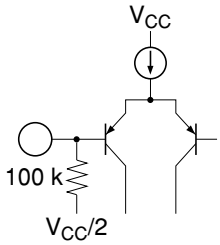
■ Pin Description, Equivalent Circuit (cont)

(V_{CC} = 12V, Ta = 25°C, No Signal, The value in the table shows typical value.)

Pin No.	Pin Name	Note	Equivalent Circuit	Description
33	RIP	V = V_{CC}/2		Ripple filter
29	PB-EQ(L)			NAB output
2	PB-EQ(R)			

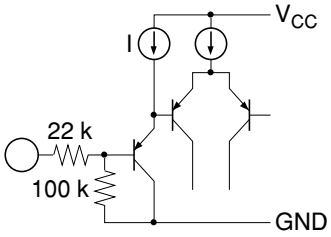
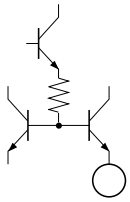
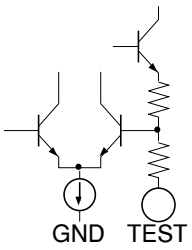
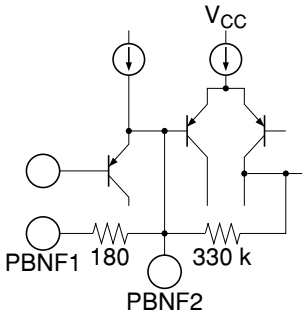
■ Pin Description, Equivalent Circuit

(V_{CC} = 12V, Ta = 25°C, No Signal, The value in the table shows typical value.)

Pin No.	Pin Name	Note	Equivalent Circuit	Description
16	V_{CC}	$V = V_{CC}$		V_{CC} pin
21	RECOUT(L)	$V = V_{CC}/2$		REC output
10	RECOUT(R)			
26	PBOUT(L)			PB output
5	PBOUT(R)			
28	EQOUT(L)	V = 2.9 V		EQ output
3	EQOUT(R)			
35	REC-RETURN	V = 0 V		REC Return
34	BIN(L)			PB B deck input
37	BIN(R)			
32	AIN(L)	V = 0 V		PB A deck input
39	AIN(R)			
24	RECIN(L)	$V = V_{CC}/2$		REC-EQ input
7	RECIN(R)			
27	TAI(L)	$V = V_{CC}/2$		Tape input
4	TAI(R)			

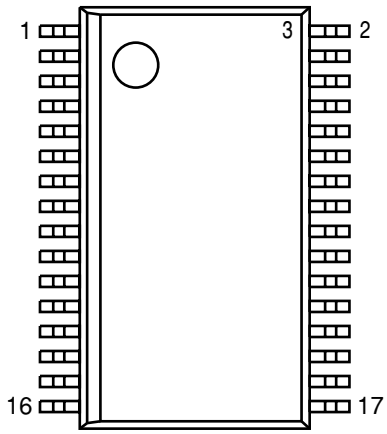
■ Pin Description, Equivalent Circuit (cont)

(V_{CC} = 12V, Ta = 25°C, No Signal, The value in the table shows typical value.)

Pin No.	Pin Name	Note	Equivalent Circuit	Description
11	ALC ON/OFF	(Control voltage = 3 V)		Mode control input
12	High/Norm			
13	A/B			
14	MUTE ON/OFF			
15	REC MUTE OFF/ON			
19	IREF	V = 1.2 V		Equalizer refernce current input
18, 36	GND			GND pin
6, 9, 22, 25, 38	NC			NC pin
20	Test mode			Test mode pin
31	PB-NF1(L)	V = 0.6 V		PB EQ feed back
40	PB-NF1(R)			
30	PB-NF2(L)			
1	PB-NF2(R)			

■ AN22000A (IC611) : CD-DA Head Amp.

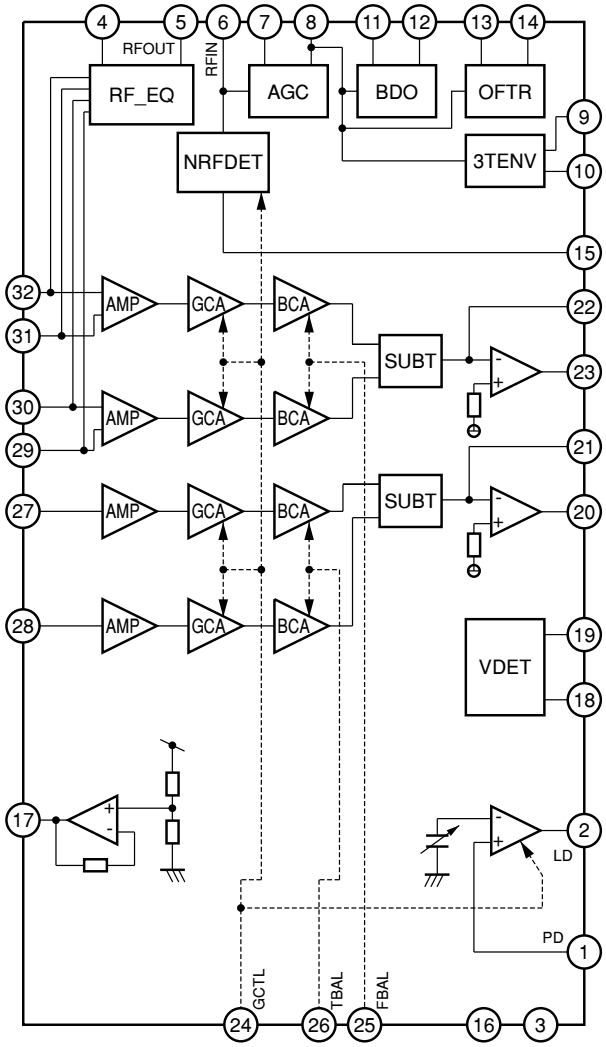
1. Terminal layout



2. Pin function

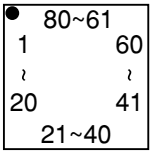
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	PD	I	APC Amp. input terminal	15	NRFDET	O	NRFDET output terminal
2	LD	O	APC Amp. output terminal	16	GND	-	Ground
3	VCC	-	Power supply terminal	17	VREF	O	VREF output terminal
4	RFN	I	RF adder Amp. inverting input terminal	18	VDET	O	VDET output terminal
				19	TEBPF	I	VDET output terminal
5	RFOUT	O	RF adder Amp. output terminal	20	TEOUT	O	TE Amp. output terminal
6	RFIN	I	AGC input terminal	21	TEN	I	TE Amp. inverting input terminal
7	CAGC	I	Input terminal for AGC loop filter capacitor	22	FEN	I	FE Amp. inverting input terminal
8	ARF	O	AGC output terminal				
9	CBA	I	Capacitor connecting terminal for HPF-Amp.	23	FEOUT	O	FE Amp. output terminal
				24	GCTL	O	GCTL & APC terminal
10	3TOUT	O	3 TENV output terminal	25	FBAL	O	FBAL control terminal
11	CBOO	I	Capacitor connecting terminal for envelope detection on the darkness side	26	TBAL	O	TBAL control terminal
				27	E	I	Tracking signal input terminal 1
				28	F	I	Tracking signal input terminal 2
12	BDO	O	BDO output terminal	29	D	I	Focus signal input terminal 4
13	COFTR	I	Capacitor connecting terminal for envelope detection on the light side	30	B	I	Focus signal input terminal 3
				31	C	I	Focus signal input terminal 2
				32	A	I	Focus signal input terminal 1
14	OFTR	O	OFTR output terminal				

3. Block diagram



■ MN6627482WA (IC601) : Digital servo & digital signal processor

1. Terminal layout

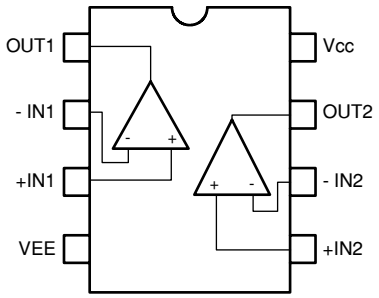


2. Pin function

Pin No	Symbol	I/O	Function	Pin No	Symbol	I/O	Function
1	BCLK	-	Not use	41	PLLF2	-	Not use
2	LRCK	-	Not use	42	TOFS	-	Not use
3	SRDATA	-	Not use	43	WVEL	-	Not use
4	DVDDI	-	Power supply for digital circuit	44	ARF	I	RF signal input
5	DVSSI	-	GND for digital circuit	45	IREF	I	Reference current input
6	TX	-	Not use	46	DRF	I	Bias pin for DSL
7	MCLK	I	Micro computer command clock signal input	47	DSLF	I/O	Loop filter pin for DSL
				48	PLLF	I/O	Loop filter pin for PLL
8	MDATA	I	Micro computer command data input	49	VCOF	I/O	Loop filter pin for VCO
				50	AVDD2	-	Power supply for analog circuit
9	MLD	I	Micro computer command load signal input (L: Load)				
				51	AVSS2	-	GND for analog circuit
10	SENSE	-	Not use, connect to TP7	52	EFM	-	Not use, connect to TP12
11	FLOCK	-	Not use, connect to TP6	53	PCK	O	Clock output for PLL
12	TLOCK	-	Not use, connect to TP5	54	VCOF2	I/O	Loop filter pin for Digital servo VCO
13	BLKCK	O	Sub code block clock signal output				
				55	SUBC	-	Not use
14	SQCK	I	External clock input for sub code Q register input	56	SBCK	-	Not use
				57	VSS	-	GND for crystal oscillation circuit
15	SUBQ	O	Sub code Q data output				
16	DMUTE	I	Muting input (H: Mute)	58	X1	I	Input for crystal oscillation circuit (f=16.9344MHz)
17	STAT	O	Status signal input				
18	RST	I	Reset signal input (L: Reset)	59	X2	O	Output for crystal oscillation circuit (f=16.9344MHz)
19	SMCK	-	Not use				
20	PMCK	-	Not use, connect to TP8	60	VDD	-	Power supply for crystal oscillation circuit
21	TRV	O	Traverse enforced output				
22	TVD	O	Traverse drive output	61	BYTCK/TRVSTP	-	Not use
23	PC	-	Not used	62	CLDCK	O	Sub code frame clock signal output
24	ECM	O	Spindle motor drive signal (Enforced mode output)				
				63	FCLK	-	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	64	IPFLAG	O	Interpolation flag signal output, Connect to TP11
26	KICK	O	Kick pulse output	65	FLAG	O	Flag signal output, Connect to TP10
27	TRD	O	Tracking drive output				
28	FOD	O	Focus drive output	66	CLVS	-	Not use
29	VREF	I	Reference voltage for D/A output block	67	CRC	-	Not use
				68	DEMPH	O	De-emphasis detect signal output, Connect to TP9
30	FBAL	O	Focus balance adjust signal output				
				69	RESY	-	Not use
31	TBAL	O	Tracking balance adjust signal output	70	IOSEL	I	Mode select pin, Connect to DVDD1 (H fix)
32	FE	I	Focus error signal input (Analog input)	71	/TEST	I	Test pin, Connect to DVDD1 (H fix)
33	TE	I	Tracking error signal input (Analog input)	72	AVDD1	-	Power supply for analog circuit
34	RFENV	I	RF envelope signal input (Analog input)	73	OUTL	O	L-channel audio output
				74	AVSS1	-	GND for analog circuit
35	VDET	I	Vibration detect signal input (H:Detect)	75	OUTR	O	R-channel audio output
				76	RSEL	I	RF signal polarity setting pin, Connect to DVDD1 (H fix)
36	OFT	I	Off track signal input (H:Off track)				
				77	CSEL	I	Oscillation frequency setting pin, Connect to GND (L fix)
37	TRCRS	I	Track cross signal input				
38	/RFDET	I	RF detect signal input (L:Detect)	78	PSEL	I	IOSEL=H, Test pin, Connect to GND (L fix)
39	BDO	I	Drop out signal input (H:Drop out)	79	MSEL	I	IOSEL=H, SMCK output, Frequency select pin
40	LDON	O	Laser on signal output (H:ON)	80	SSEL	I	IOSEL=H, SMCK output, SUBQ output mode select pin

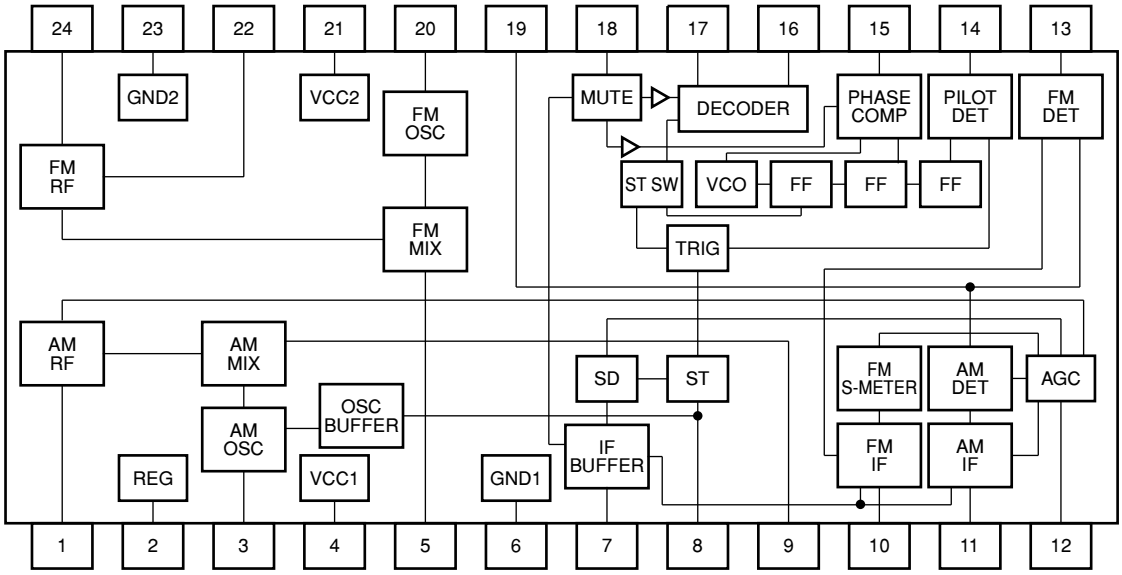
■ BA15218DIP (IC102) : Dual low noise operational amp.

1. Terminal layout



■ LA1823DIP (IC1) : 1chip AM/FM, MPX tuner system

1. Block diagram

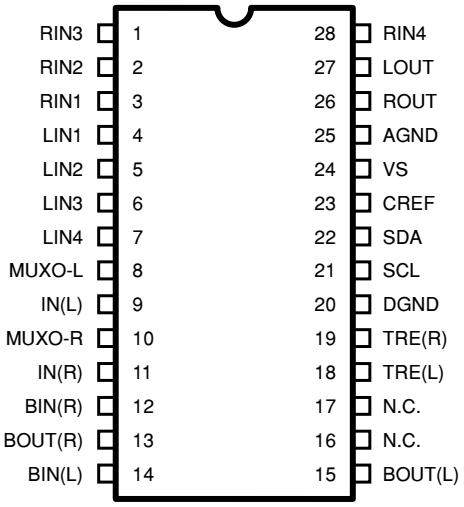


2. Pin function

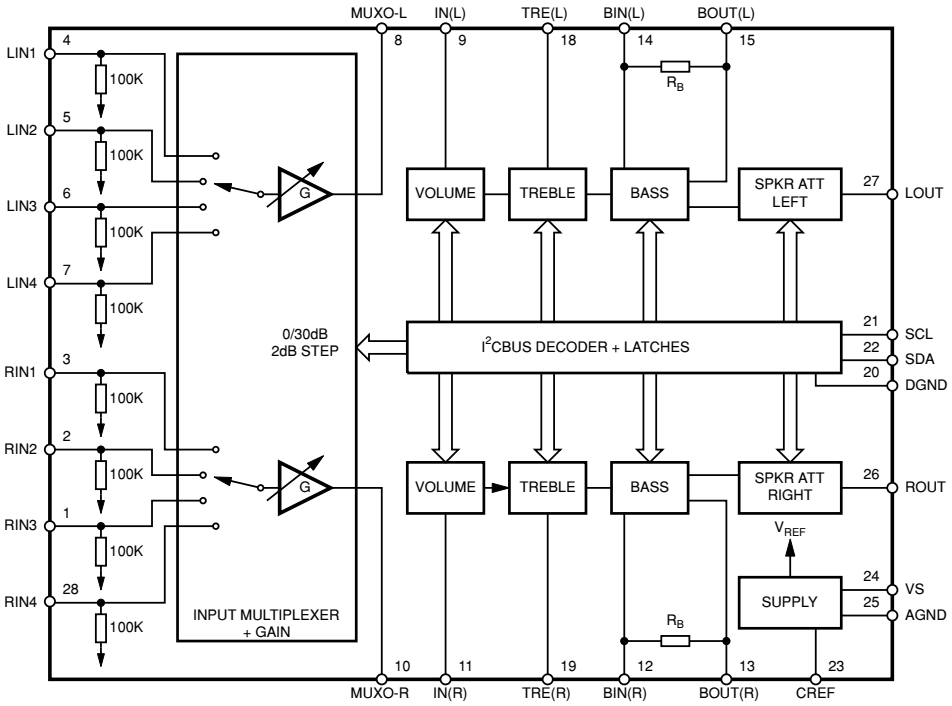
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	AM_RFIN	I	AMRF signal input	13	FM_DET	O	FM detection signal output
2	REG.	-		14	ST/MON_SW	I	Stereo/Monaural switching signal input
3	AM_OSC	-	AM local oscillation circuit	15	AM/FM_SW	I	AM/FM switching signal input
4	VCC_1	-	Power supply terminal	16	L_OUT	O	Output L-channel
5	FM_MIXOUT	O	Output terminal for FM mixer	17	R_OUT	O	Output R-channel
6	GND_1	-	Ground	18	MPX_IN	I	Multiplex signal input
7	IF_BUFFER	O	IF buffer output	19	DET_OUT	O	AM/FM detection output
8	ST_IND	O	Stereo indicator output	20	FM_OSC	-	FM local oscillation circuit
9	AM_MIXOUT	O	Output terminal for AM mixer	21	VCC_2	-	Power supply terminal
10	FM_IF IN	I	Input of FMIF signal	22	FM_RFOUT	O	Output of FMRF signal
11	AM_IF IN	I	Input of AMIF signal	23	GND_2	-	Ground
12	AGC	I	AGC voltage input terminal	24	FM_RFIN	I	Input of FMRF signal

■ TDA7440D (IC101) : Audio processor

1. Terminal layout

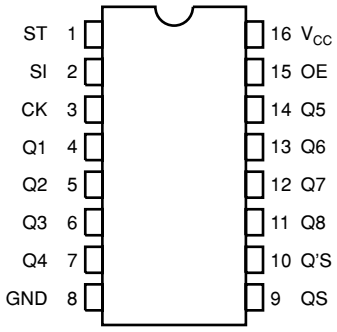


2. Block diagram

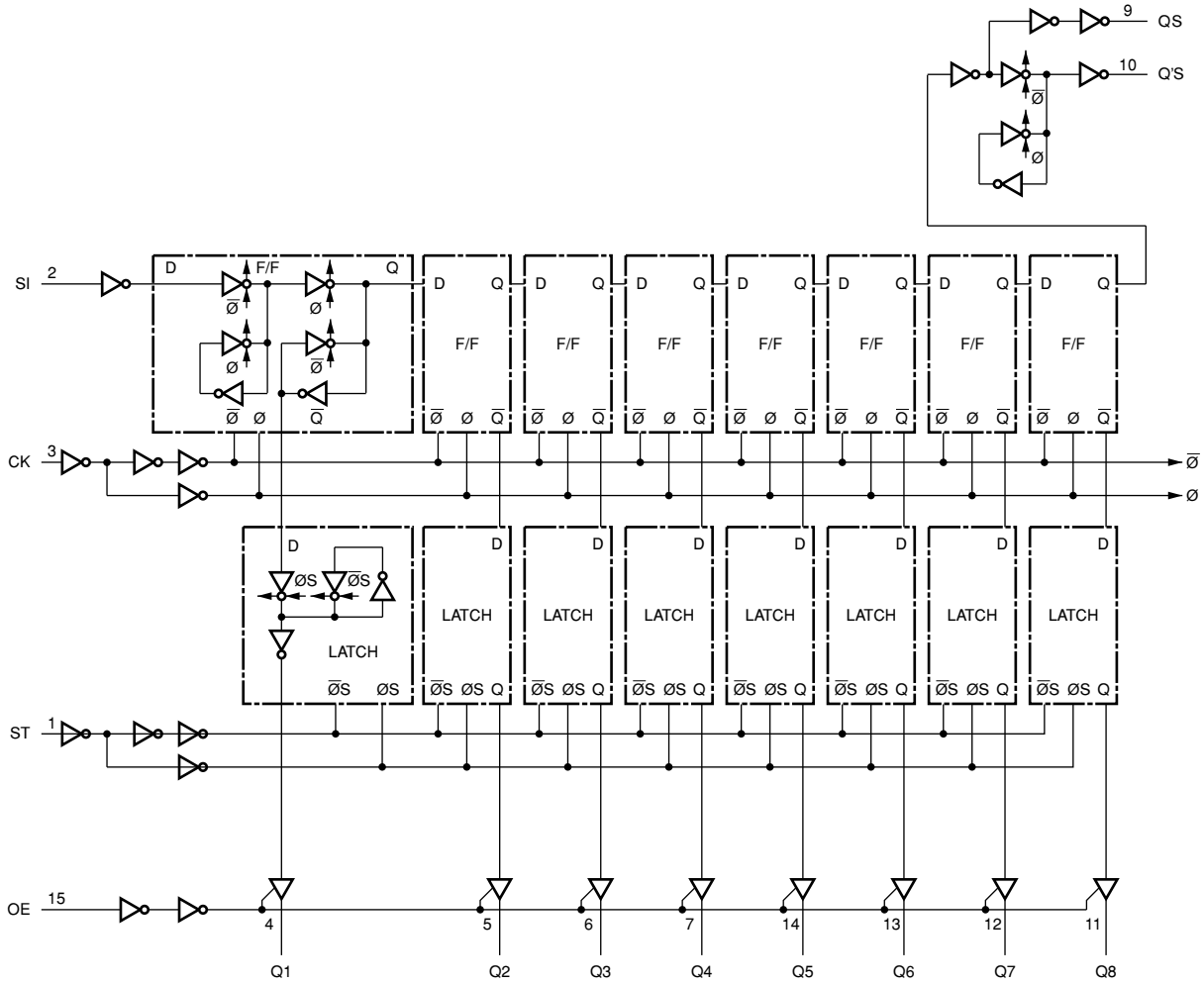


■ TC74HC4094AP (IC402) : 8-bit shift and store resister

1. Terminal layout

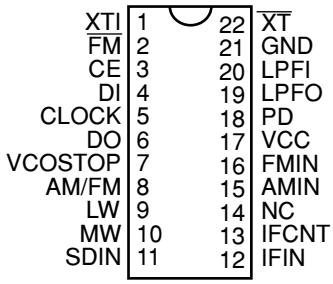


2. Block diagram

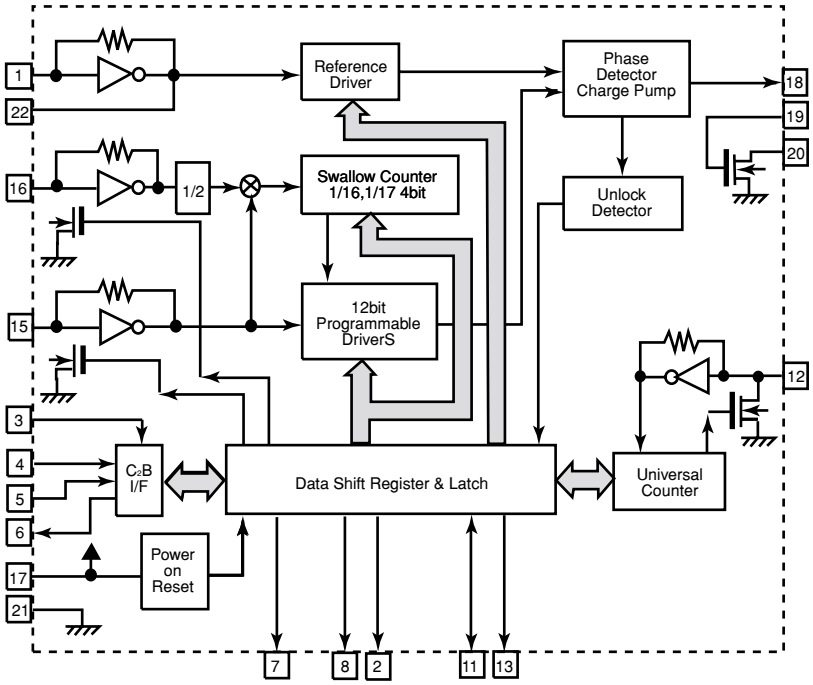


■ LC72136N (IC2) : PLL Frequency synthesizer

1.Terminal layout



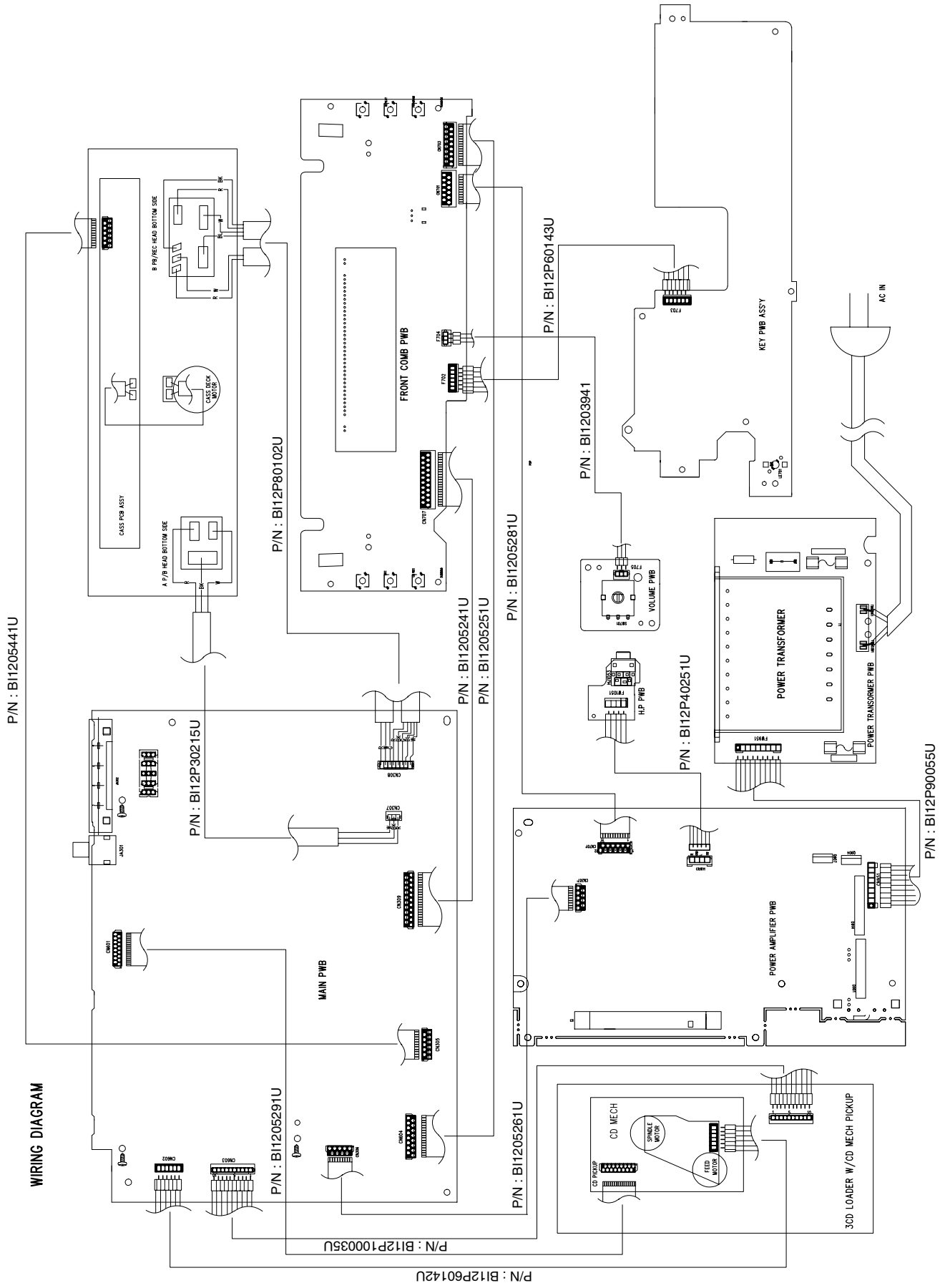
2. Block diagram



3. Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XTI	I	X'tal oscillator connect (75KHz)	12	IFIN	I	IF counter signal input
2	$\overline{FM}$	O	LOW:FM mode	13	IFCNT	O	IF signal output
3	CE	I	When data output/input for 4pin(input) and 6pin(output): H	14	NC	-	Not use
4	DI	I	Input for receive the serial data from controller	15	AMIN	I	AM Local OSC signal output
5	CLOCK	I	Sync signal input use	16	FMIN	I	FM Local OSC signal input
6	DO	O	Data output for Controller Output port	17	VCC	-	Power supply(VDD=4.5～5.5V) When power ON:Reset circuit move
7	VCOSTOP	O	"Low": MW mode	18	PD	O	PLL charge pump output(H: Local OSC frequency Height than Reference frequency. L: Low Agreement: Height impedance)
8	AM/FM	O	Open state after the power on reset	19	LPFO	O	Output for active lowpassfilter of PLL
9	NC	-	Input/output port	20	LPFI	I	Input for active lowpassfilter of PLL
10	NC	-	Input/output port	21	GND	-	Connected to GND
11	SDIN	I/O	Data input/output	22	$\overline{XT}$	I	X'tal oscillator(75KHz)

Wiring connection



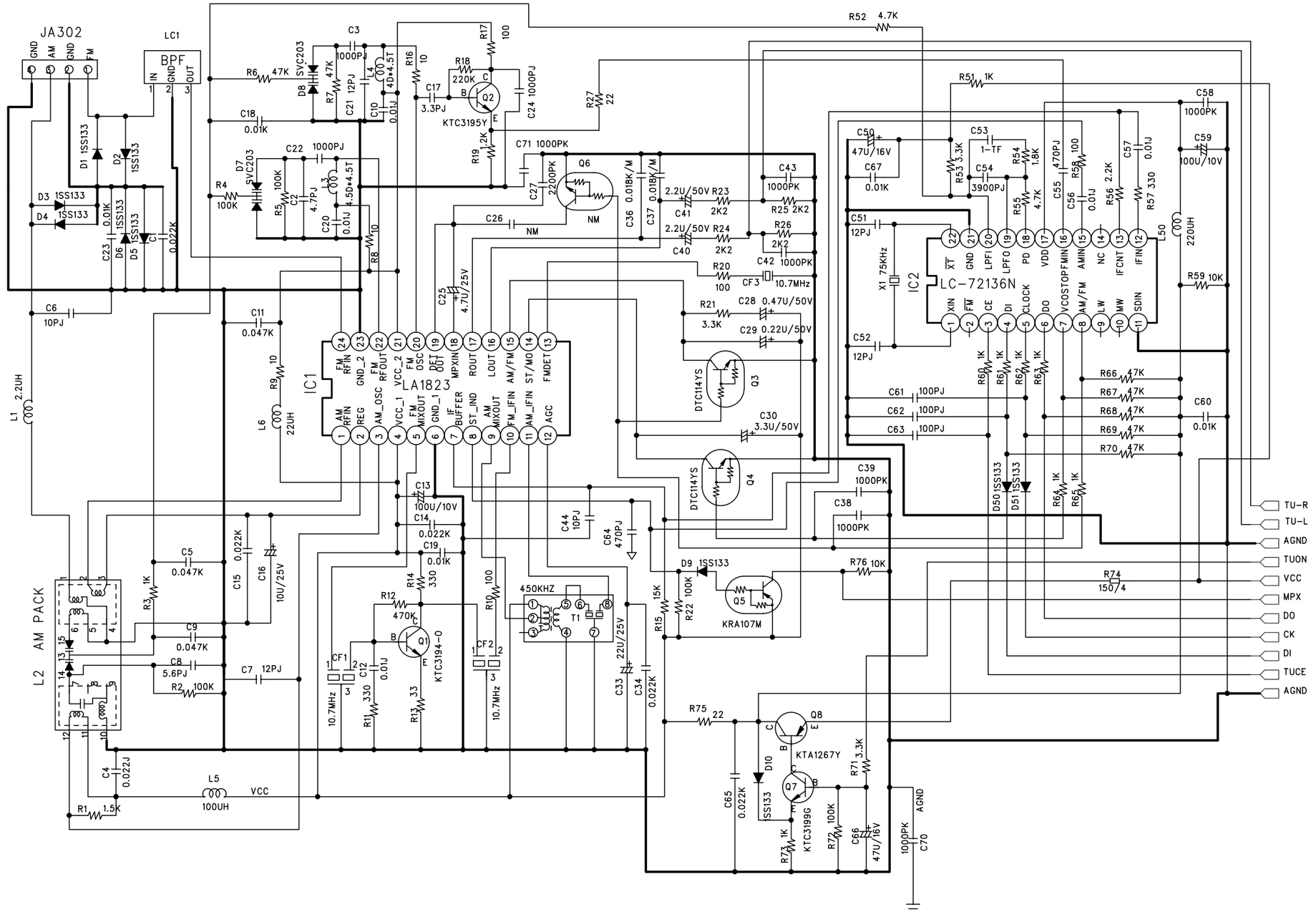
JVC

VICTOR COMPANY OF JAPAN, LIMITED
AV & MULTIMEDIA COMPANY AUDIO/VIDEO SYSTEMS CATEGORY 10-1,1Chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

No.MB039

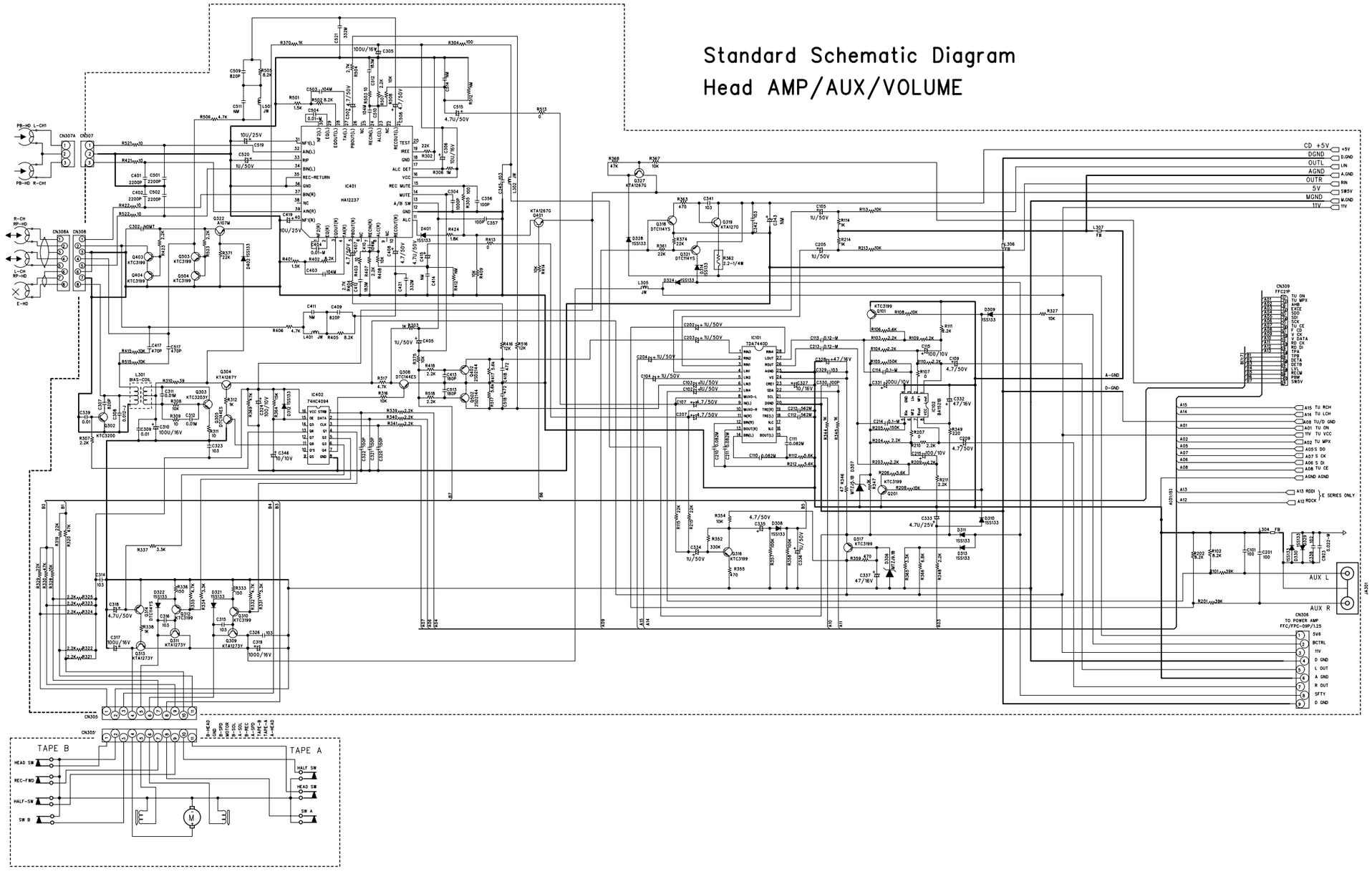
Printed in Japan
WPC

■ Tuner section

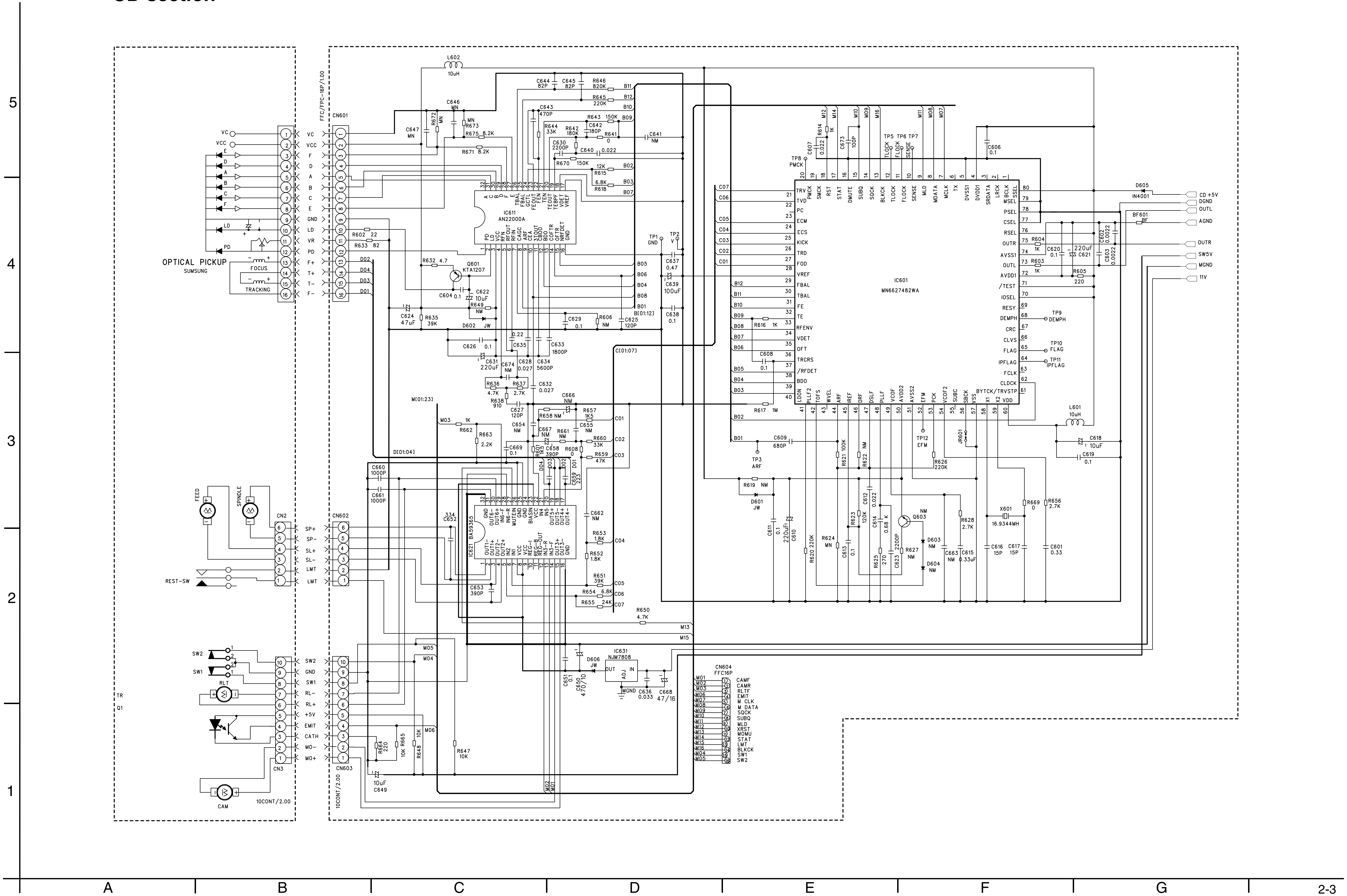


■ Main section

Standard Schematic Diagram
Head AMP/AUX/VOLUME



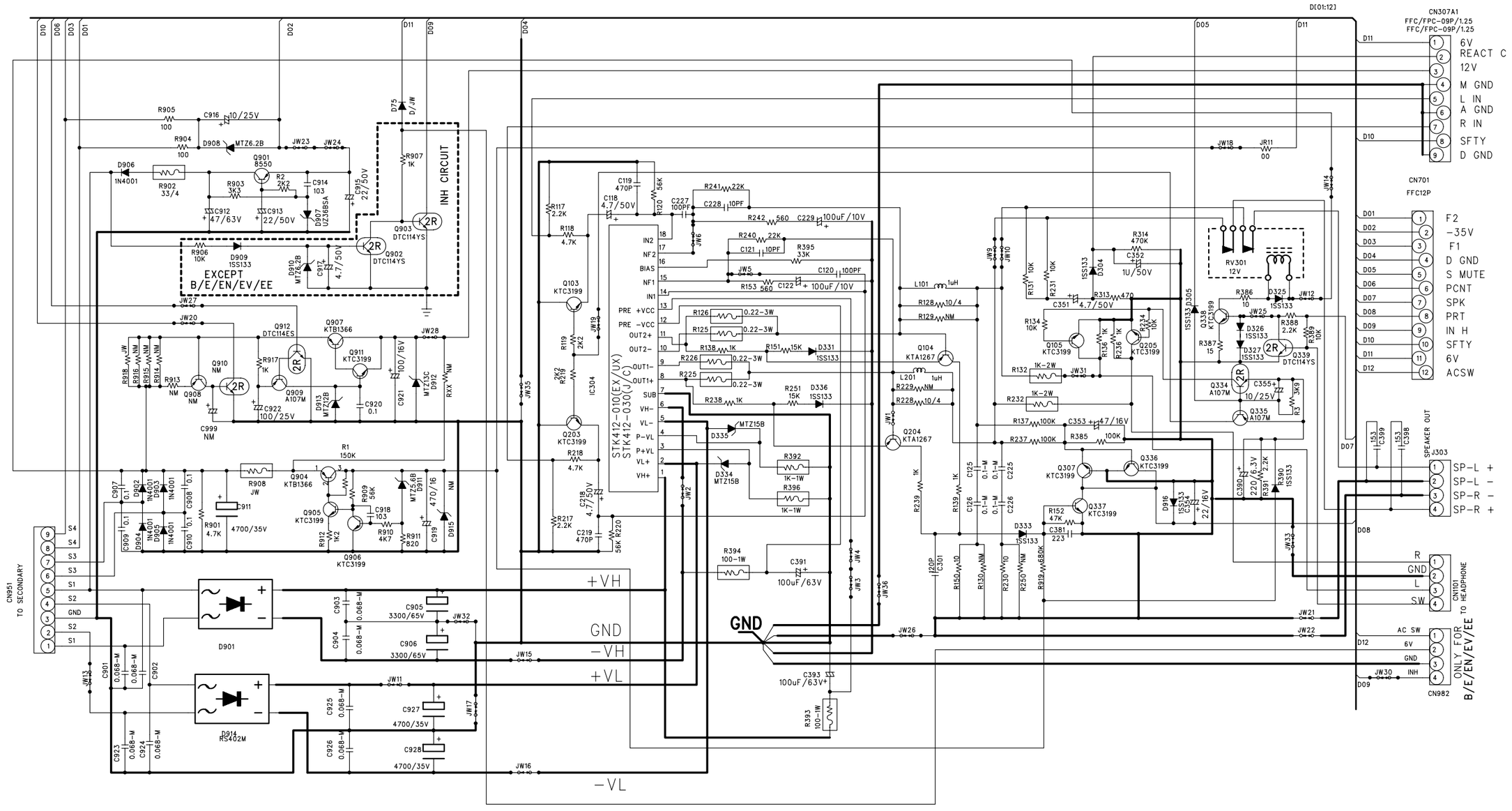
■ CD section



OPTICAL PICKUP
SUMSUNG
FOCUS
TRACKING
CN601
FFC/FPC-16P/1.00
IC611
AN22000A
IC601
MN6627482WA
IC621
BA5936S
IC631
NJM7808
Q601
KTA1207
Q603
X601
16.9344MH
L602
10uH
L601
10uH
D605
IN4001
BF601
CN602
CN603
CN604
FFC16P
CN2
CN3
FEED
SPINDLE
REST-SW
SW2
SW1
RLT
CAM
10CONT/2.00
CD +5V
DGND
OUTL
AGND
OUTR
SW5V
MGND
11V
TP1
GND
TP2
TP3
ARF
TP8
PMCK
TP9
DEMPH
TP10
FLAG
TP11
IPFLAG
TP12
EFM
CAMF
CAMR
RLTF
EMIT
M CLK
M DATA
SQCK
SUBQ
MLD
XRST
MOMU
STAT
LMT
BLKCK
SW1
SW2
A
B
C
D
E
F
G
1
2
3
4
5

■ Amplifier

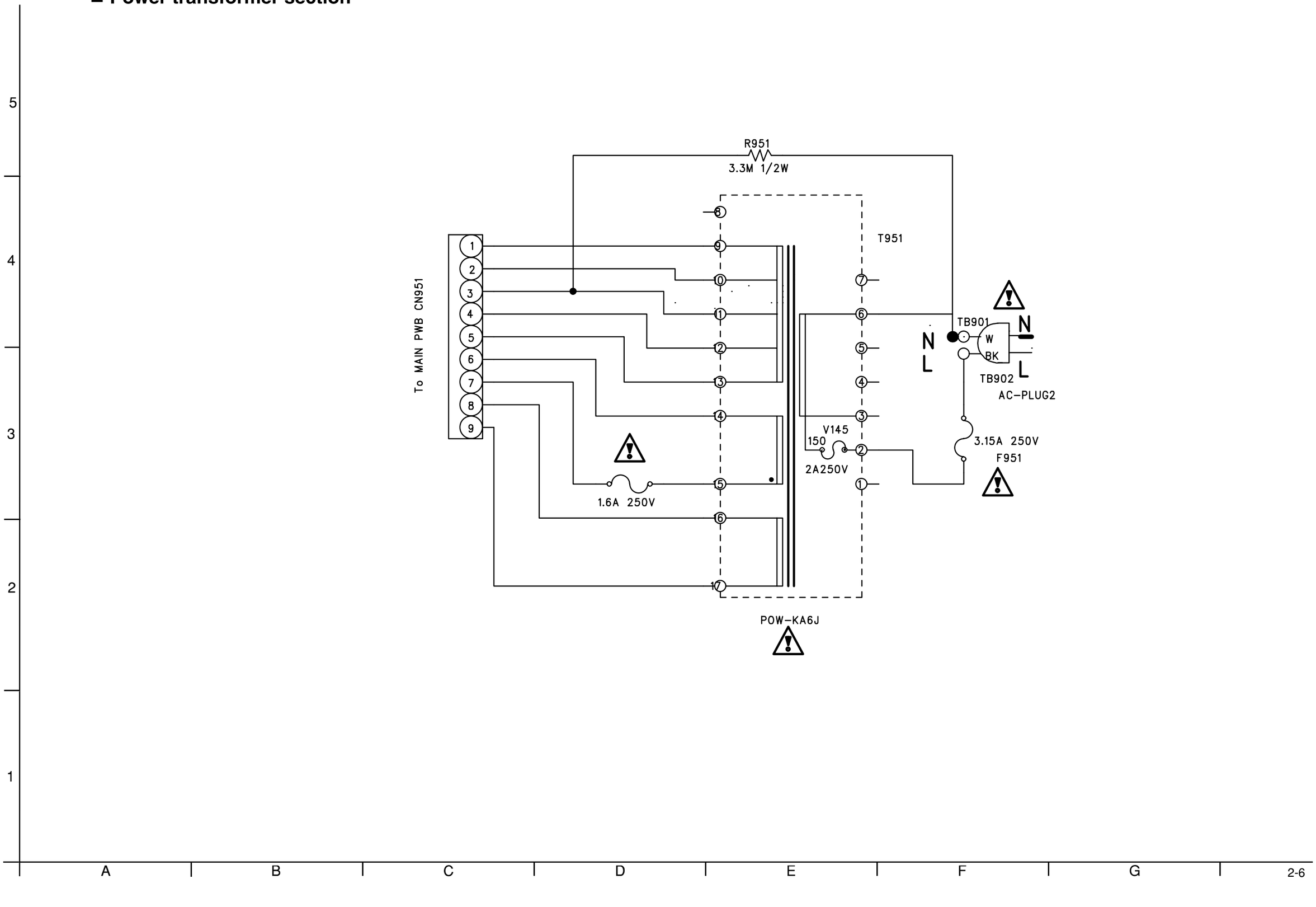
POWER AMPLIFIER BLOCK



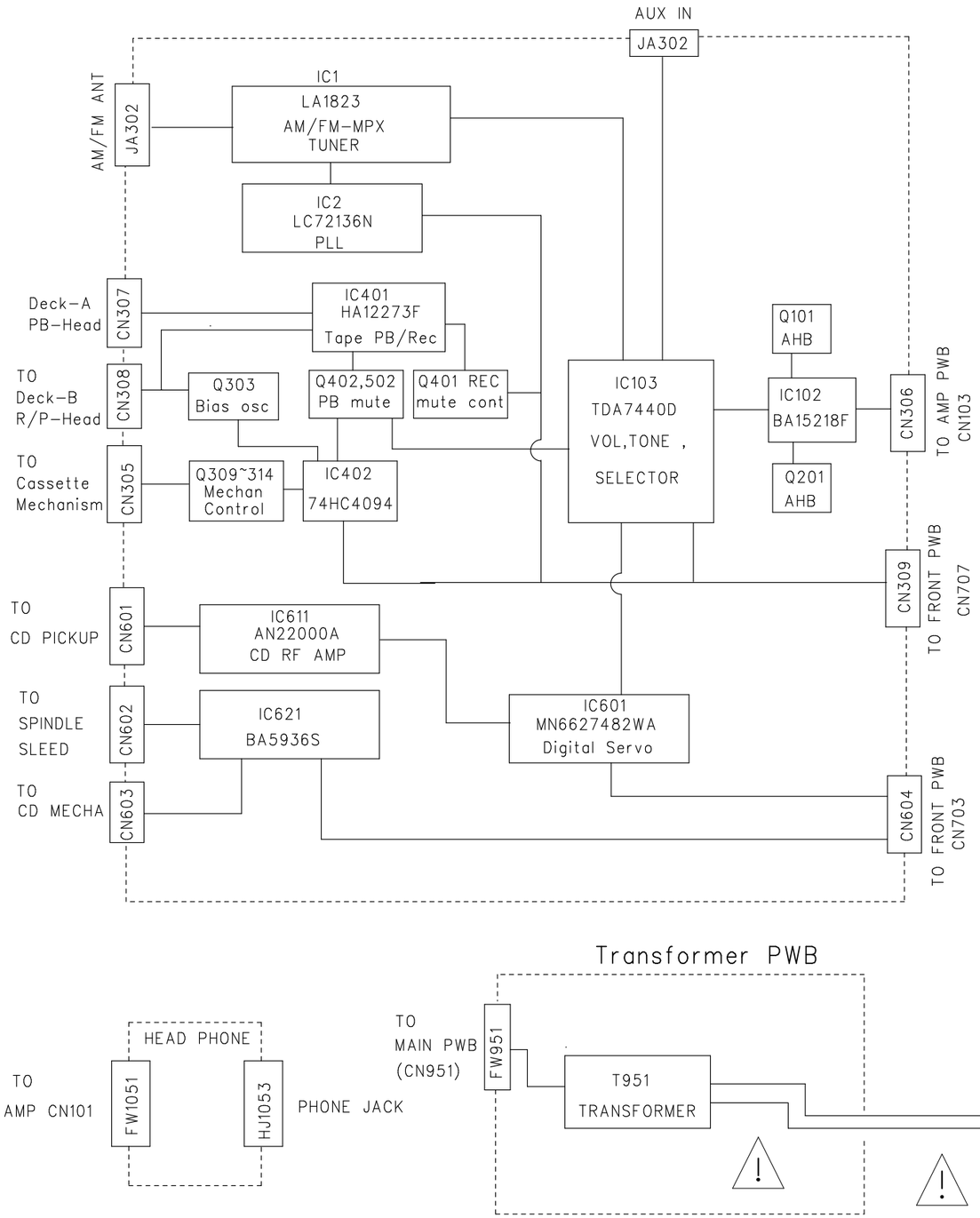
■ FL Display and CPU Control

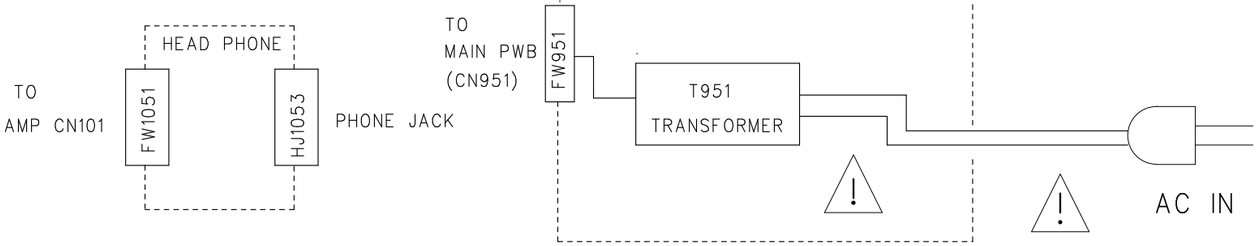
VERSION		SETING			ECO MODE	
		R1006	R1007	R1016	JP701	R726
J	USA	NIL	NIL	NIL	YES	NIL
C	CANADA	NIL	NIL	NIL	YES	NIL
E	EUROPE	18K	2K2	18K	NIL	10K
B	UK	18K	2K2	18K	NIL	10K
EN	NORDIC	18K	2K2	18K	NIL	10K
~~EE~~	~~RUSSIA~~	~~6.8K~~	~~820~~	~~18K~~	~~NIL~~	~~10K~~
EV	EASTEUROPE	18K	2K2	18K	NIL	10K
A	Austrari	8K2	0	NIL	NIL	(10K)
U/US	Sigapore	18K	2K2	5K6	YES	NIL
~~UP~~	~~Korea~~	~~12K~~	~~1.5K~~	~~18K~~	~~YES~~	~~(10K)~~
~~UX~~	~~SaudiArabia~~	~~NIL~~	~~NIL~~	~~5.6K~~	~~YES~~	~~(10K)~~
UY	Argentina	NIL	NIL	18K	YES	NIL
UW	LatinAmerica	NIL	NIL	18K	YES	NIL
UT	TaiWan	18K	2K2	5K6	YES	NIL
~~UB~~	~~HongKong~~	~~4.7K~~	~~JW~~	~~NIL~~	~~YES~~	~~(10K)~~
UJ	USMIL	18K	2K2	5K6	YES	NIL

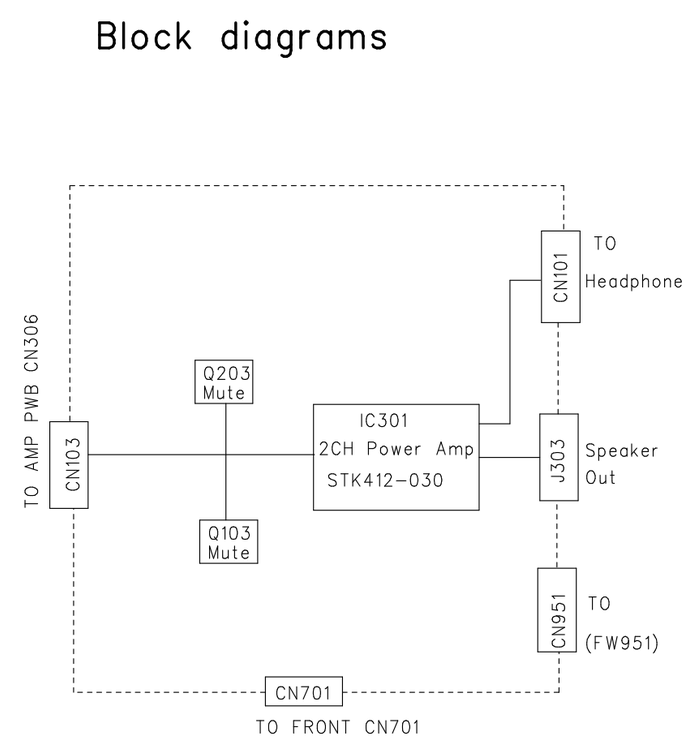
■ Power transformer section

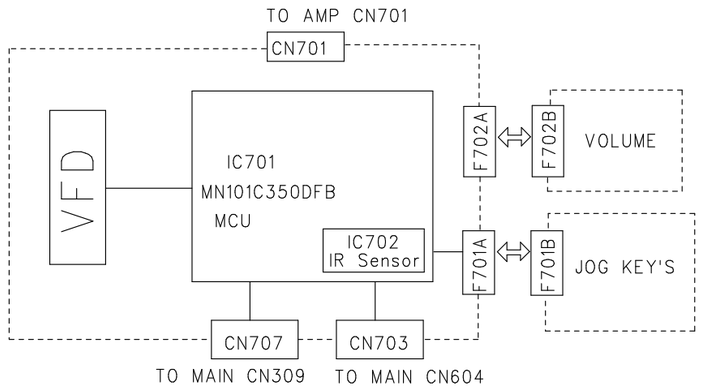


■ Block diagram

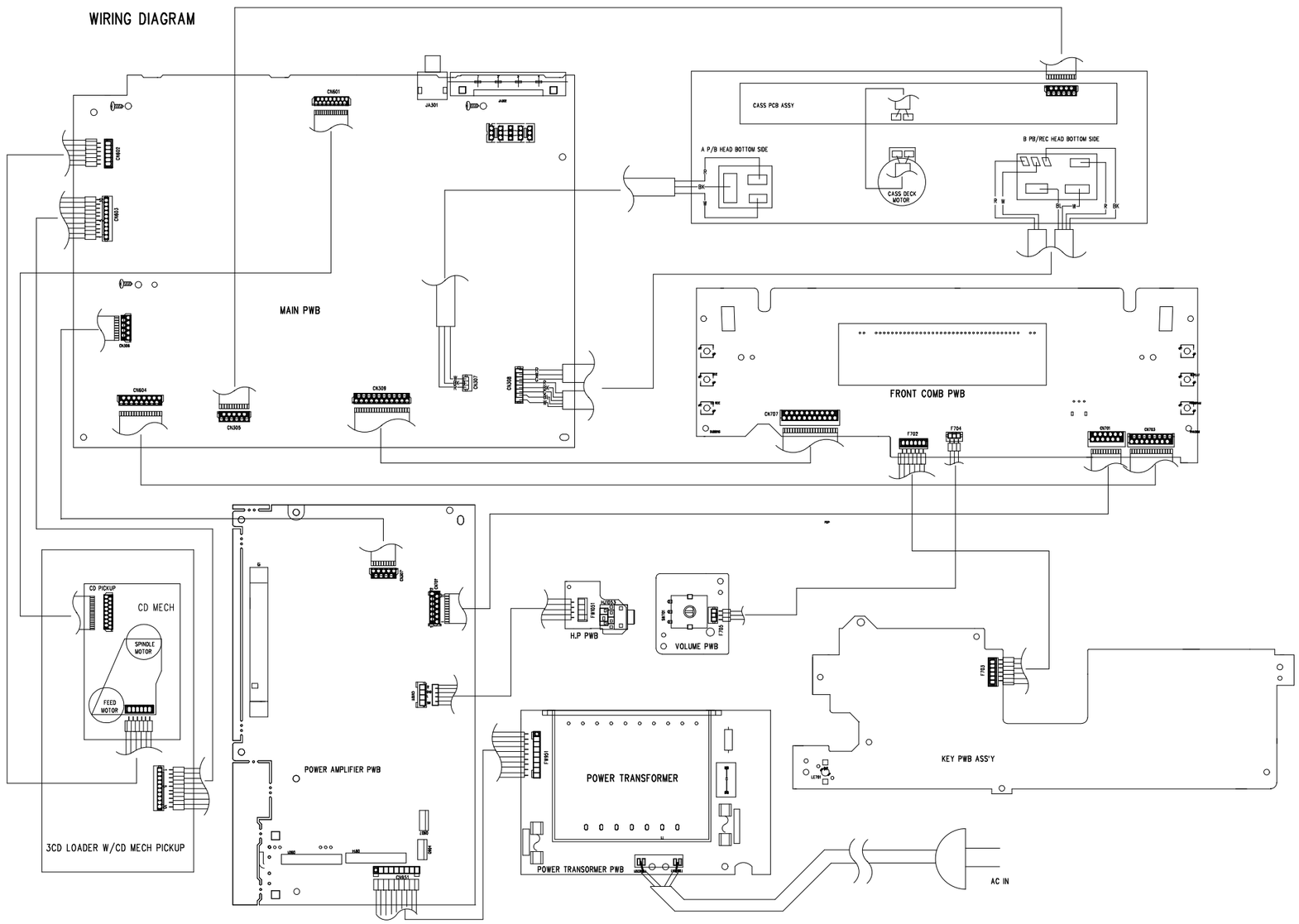




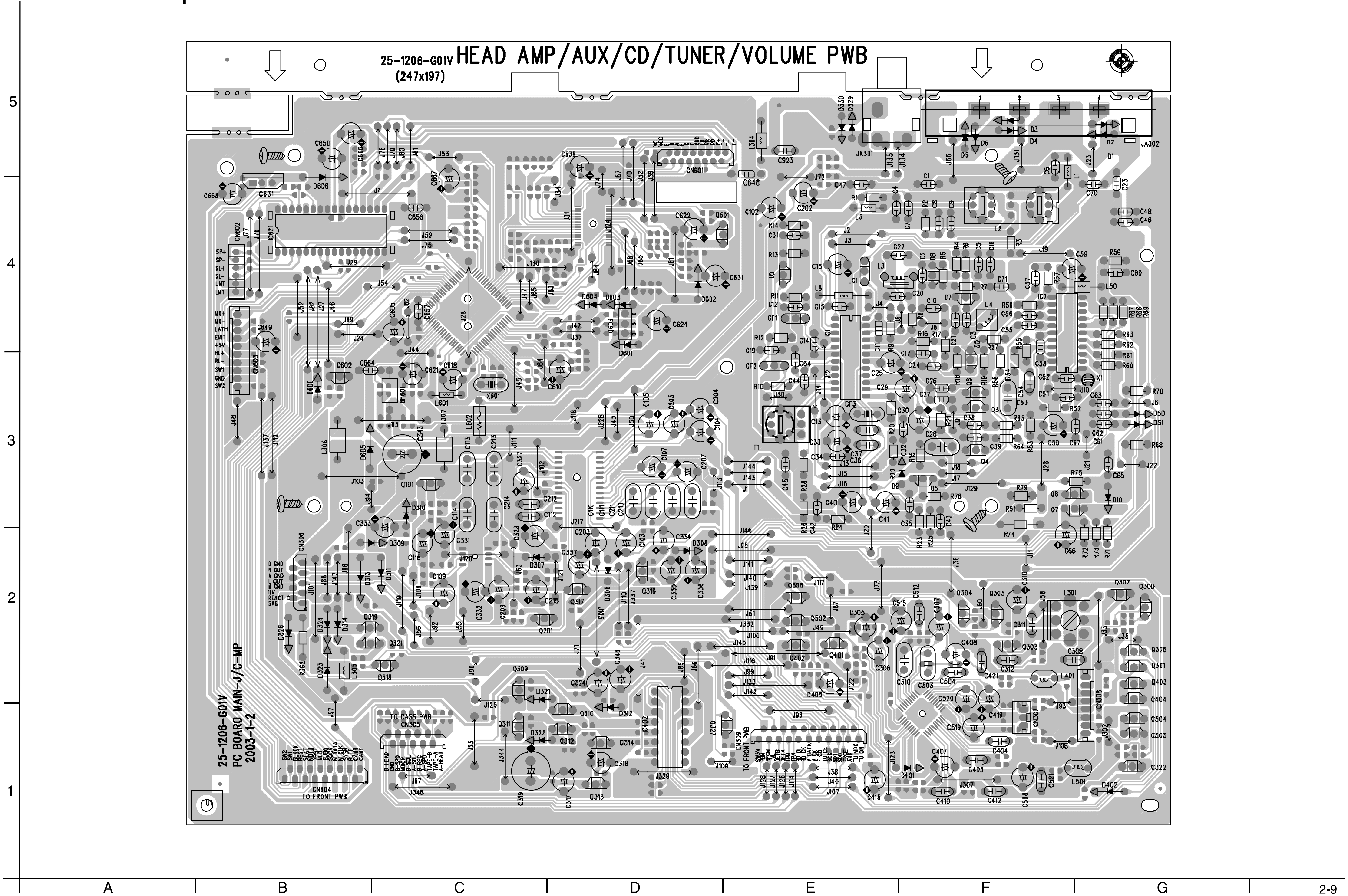




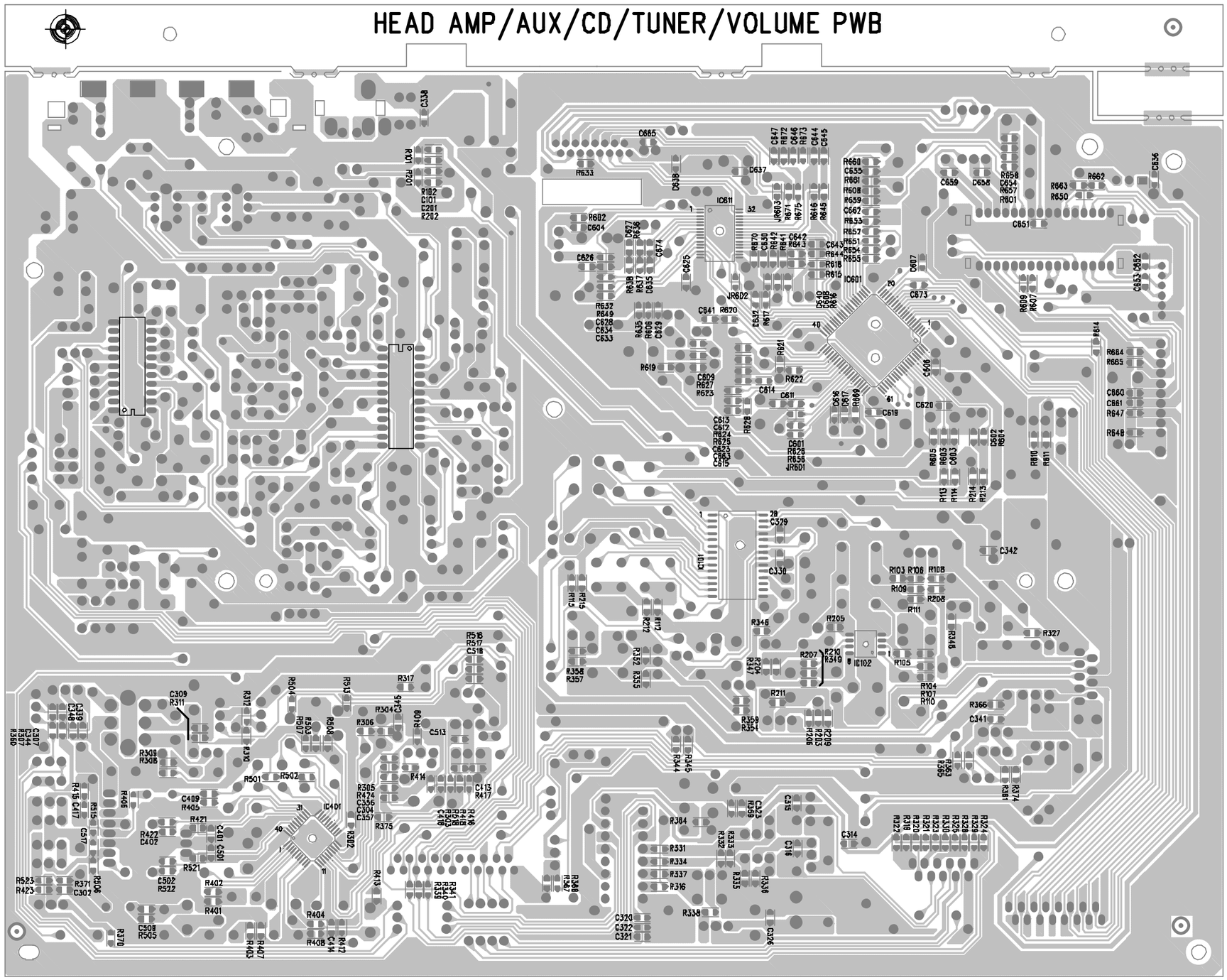
■ Wiring diagram



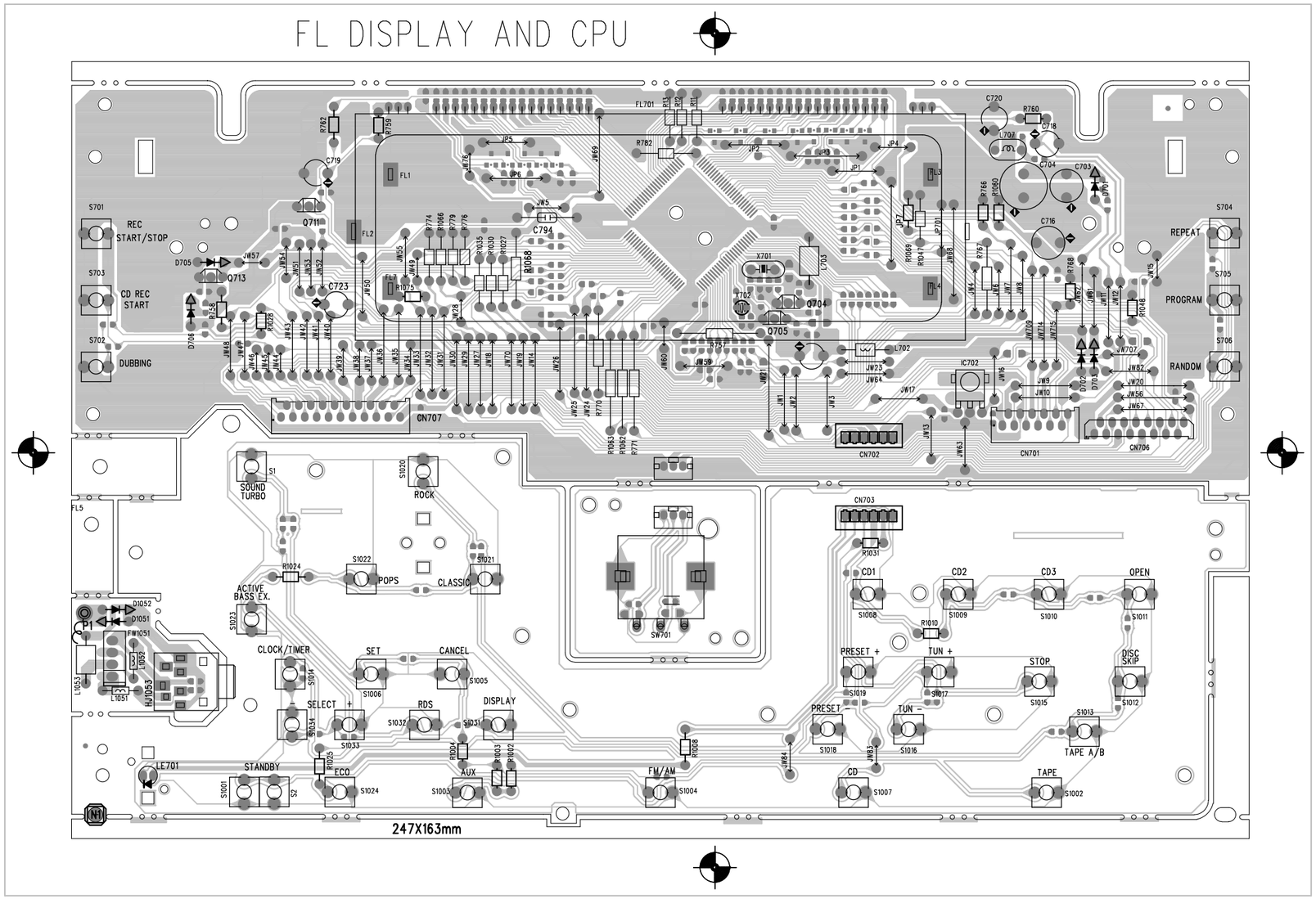
■ Main top PWB


25-1206-G01V HEAD AMP/AUX/CD/TUNER/VOLUME PWB
(247x197)
25-1206-G01V
PC BOARD MAIN-J/C-MP
2003-1-2
CN804
TO FRONT PWB
TO CASS PWB
CN305
TO FRONT PWB

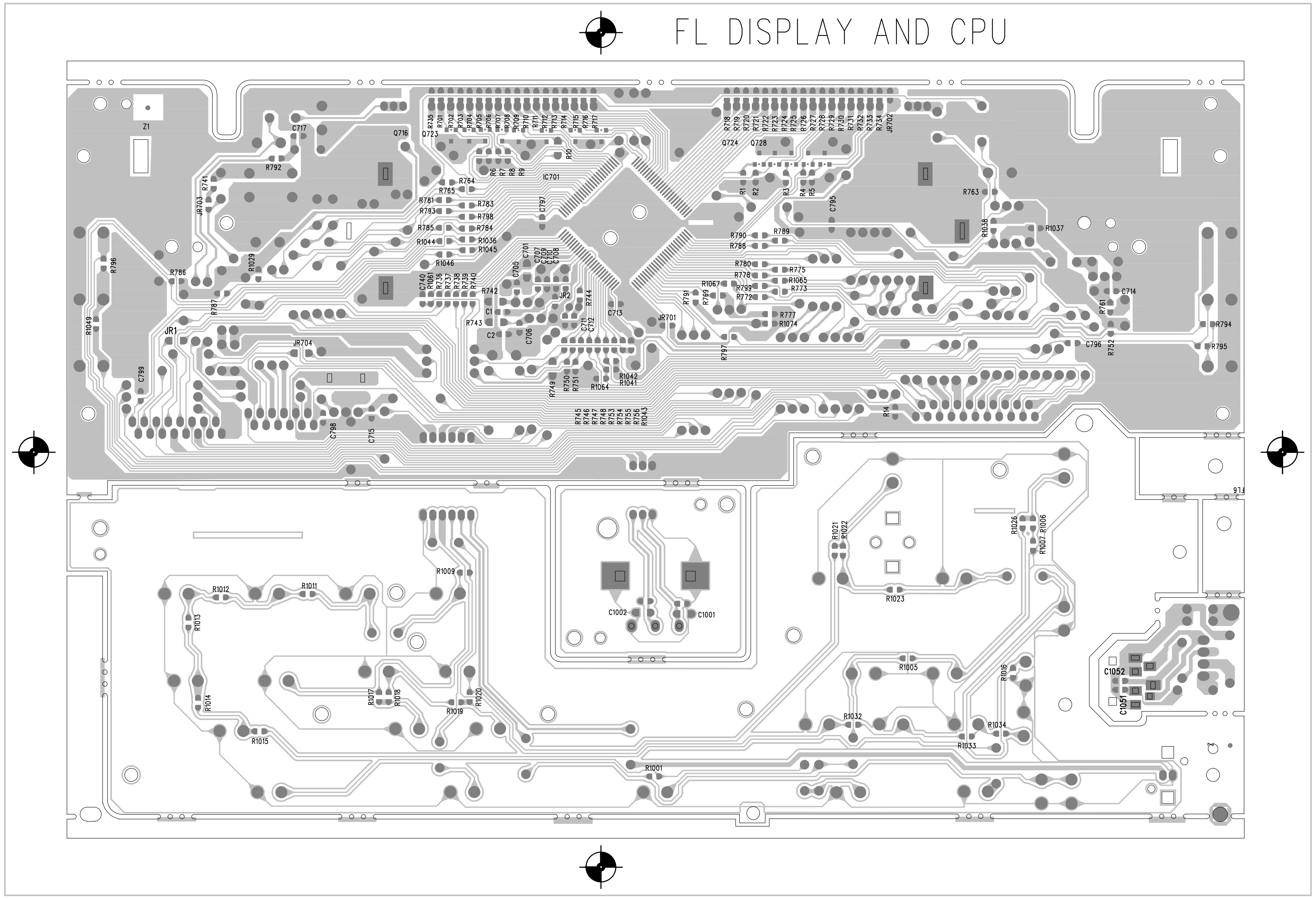
■ Main bottom PWB



■ FL Display and CPU (TOP)



■ FL Display and CPU (BOTTOM)



5

4

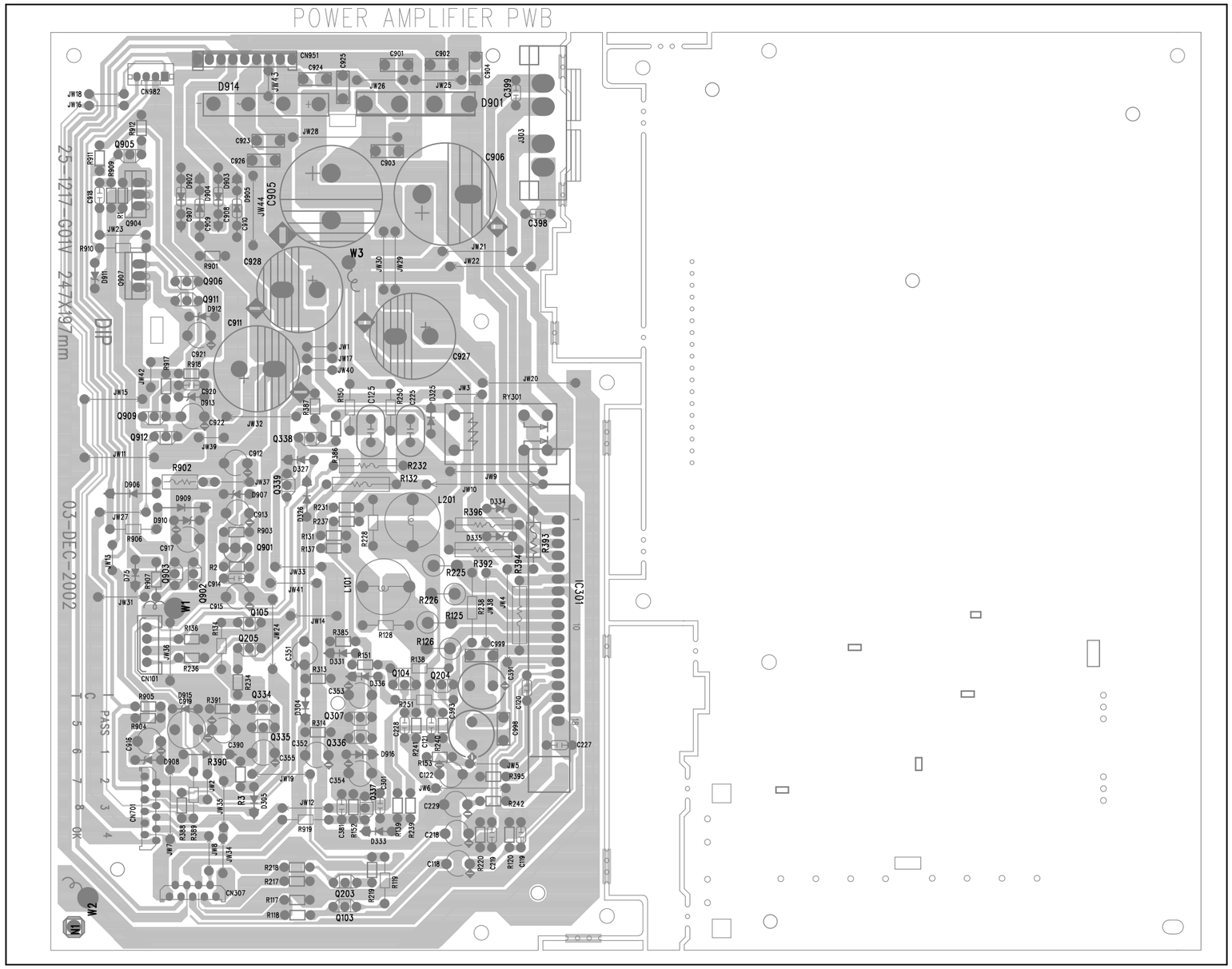
3

2

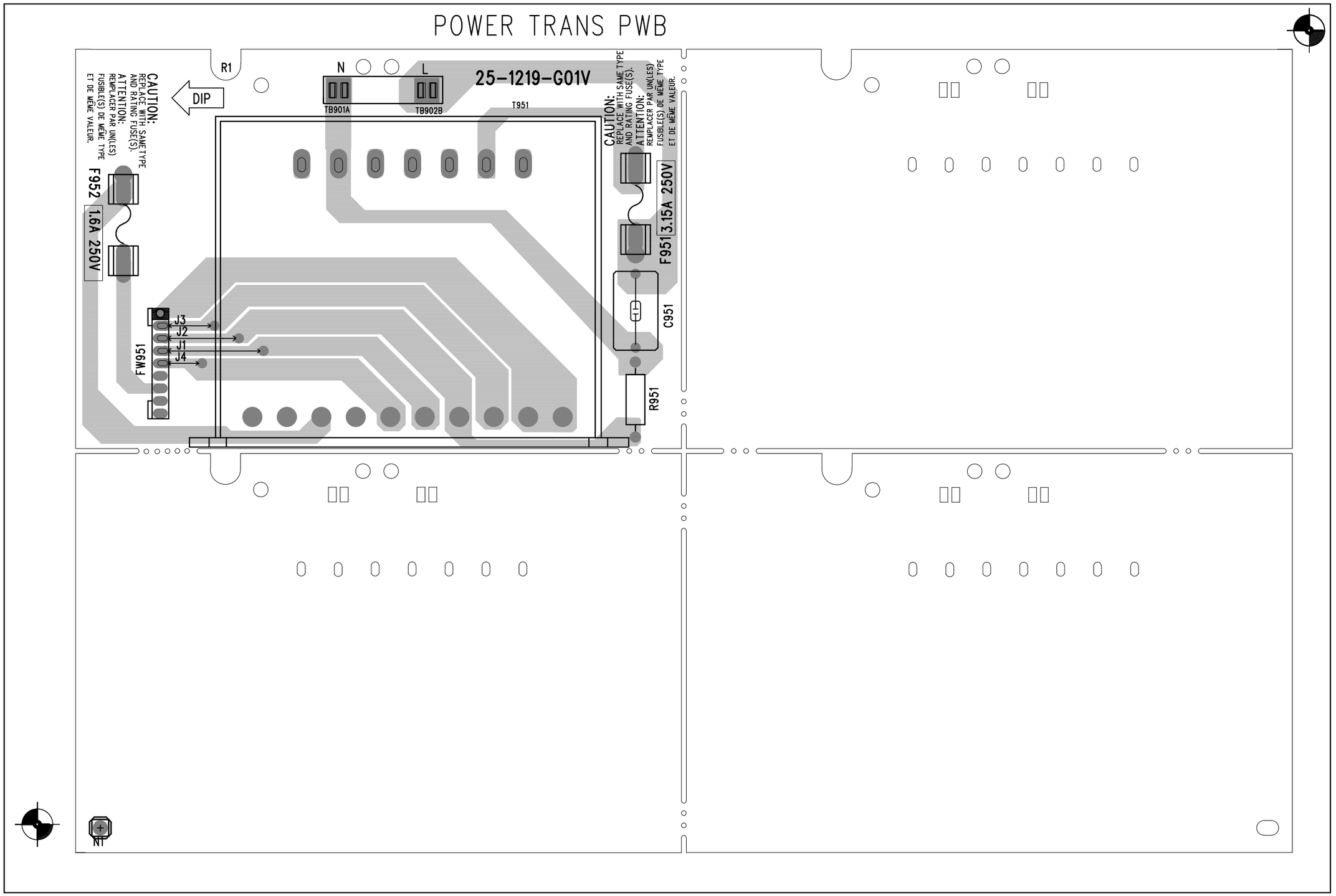
1

A B C D E F G

■ Power Amp. PWB



■ Power trans PWB



PARTS LIST

[MX-KA7]

* All printed circuit boards and its assemblies are not available as service parts.

Area suffix

JW ---------- Mexico,Panama

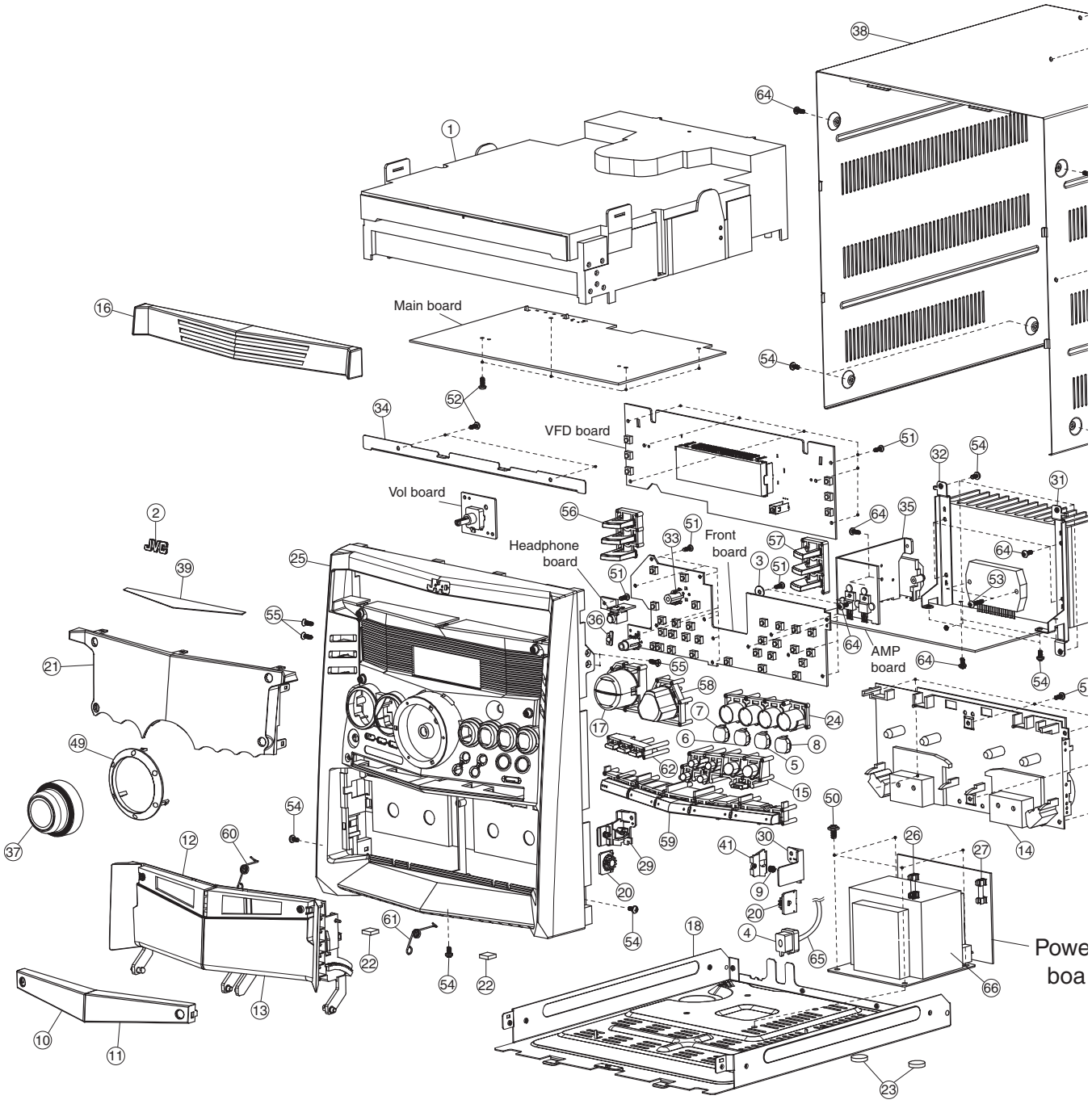
- Contents -

- Note-

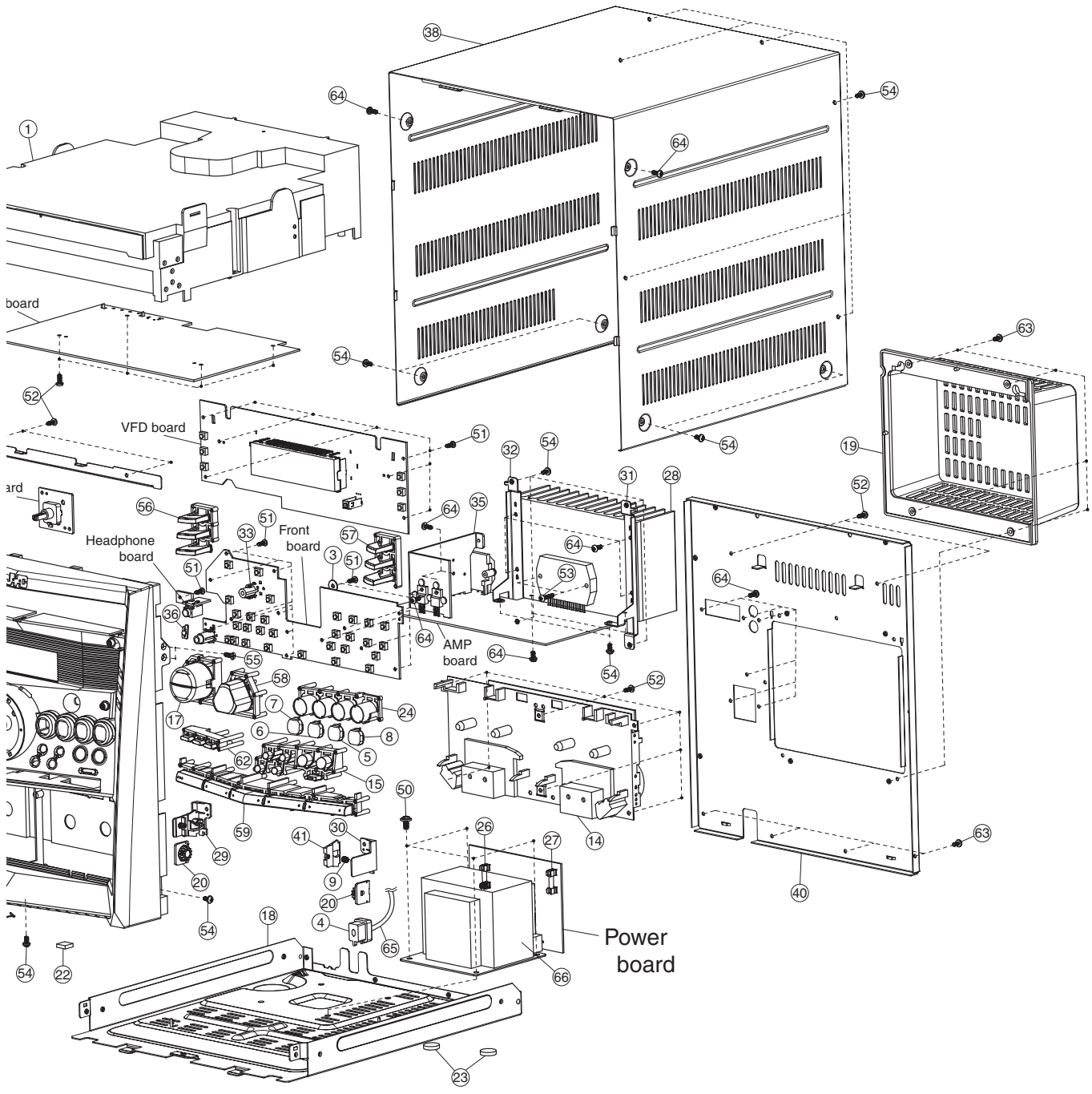
Parts number of normal capacitors and normal resistors doesn't listed on the parts list

Exploded view of general assmbly and parts list

Block No. M 1 M M



Block No. M 1 M M



General assembly

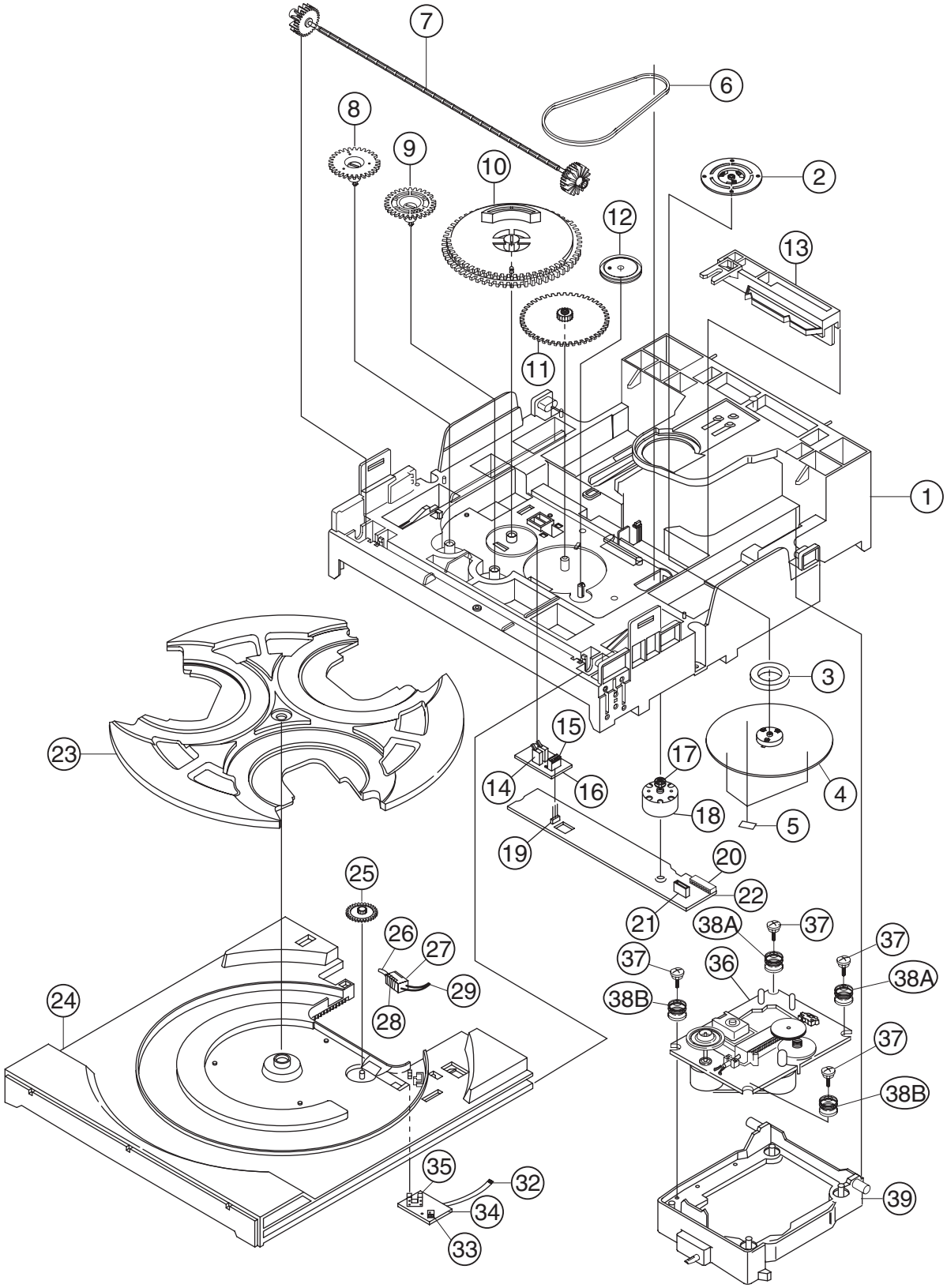
Block No. [M][1][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	----------	CD CHANGER MACH		
2	BI109835010201	BADGE JVC		
3	BI300856010101	BELT CLIP WASHE		
⚠ 4	BI301789010101	BUSHING	5RF-5B	
5	BI107475030101	CAP CD3		
6	BI107475020101	CAP CD2		
7	BI107475010101	CAP CD1		
8	BI107475040101	CAP OPEN CLOSE		
9	BI201789010102	CASS LOCK SPRIN	(x2)	
10	BI107468010101	CASS DOOR WIN L		
11	BI107467010101	CASS DOOR WIN R		
12	BI107466010101	CASSETTE HLDE L		
13	BI107465010101	CASSETTE HLDR R		
14	----------	CASSETTE MECHA	CMAT6Z219A	
15	BI107477010101	CD EJECT BUTTON		
16	BI107463010101	CD FITTING		
17	BI107471010101	CD SE BUTTON A		
18	BI202547010101	CHAS MAIN		
19	BI107483010101	COVER HTSINK		
20	BI301388010101	DAMPING GEAR	(x2)	
21	BI1074640801U1	DISPLAY WINDOW		
22	BI103362020102	EVA FOOT	(x2)	
23	BI301779010101	EVA FOOT C	(x2)	
24	BI107473010101	FRAME CD SELECT		
25	BI107462010201	FRONT PANEL		
⚠ 26	BI402991	FUSE	1.6A 250V F952	
⚠ 27	BI403011	FUSE	3.15A 250V F951	
28	BI202556010101	HEAT SINK 2		
29	BI104143010102	HLDR LOCK L		
30	BI104143010202	HLDR LOCK R		
31	BI202560010101	HLDR R		
32	BI202553010101	HLDR L		
33	BI107480010101	HLDR SOUND MODE		
34	BI202592010101	HOLDER BRACKET		
35	BI202555010101	HEAT SINK AMP		
36	BI107485010101	INDICATOR STAND		
37	BI109819030201	KNOB VOLUME TAB		
38	BI202548010101/S/	METAL COVER		
39	BI301922010101	MIRROR SHEET		
40	BI2025500301U1	REAR PANEL		
41	BI104142010102	PLATE LOCK 1		
49	BI107482010101	RING VOLUME		
50	BIPMW001101S3	SCREW	4.0XL6 METAL(x4)	
51	BIBT000418	SCREW	2.6XL8 PLASTIC(x23)	
52	BIRT000617B3	SCREW	3.0XL10 PLASTIC(x14)	
53	BIBT0006091	SCREW	3.0XL14 PLASTIC(x2)	
54	BIRM000603S3	SCREW	3.0XL6 METAL(x19)	
55	BIKT000627	SCREW	(x4)	
56	BI107470010101	SELECT BUTTON		
57	BI107469010101	SELECT BUTTON		
58	BI107472010101	SOUND MODE BUTT		
59	BI107478010101	SOURCE BUTTON		
60	BI202566010101	SPRING L		
61	BI202565010101	SPRING R		
62	BI107476010101	SUB BUTTON SET		
63	BIRM000604S3	SCREW	RH/TS 3XL8(x8)	
64	BIRT000611B3	SCREW	RH/TS 3XL8(x17)	
⚠ 65	BI1400864	POWER CORD		
⚠ 66	BI211041004001W	POWER TRANS	T951	

CD changer mechanism assembly and parts list

Block No. M A M M

BI3400931



CD changer mechanism

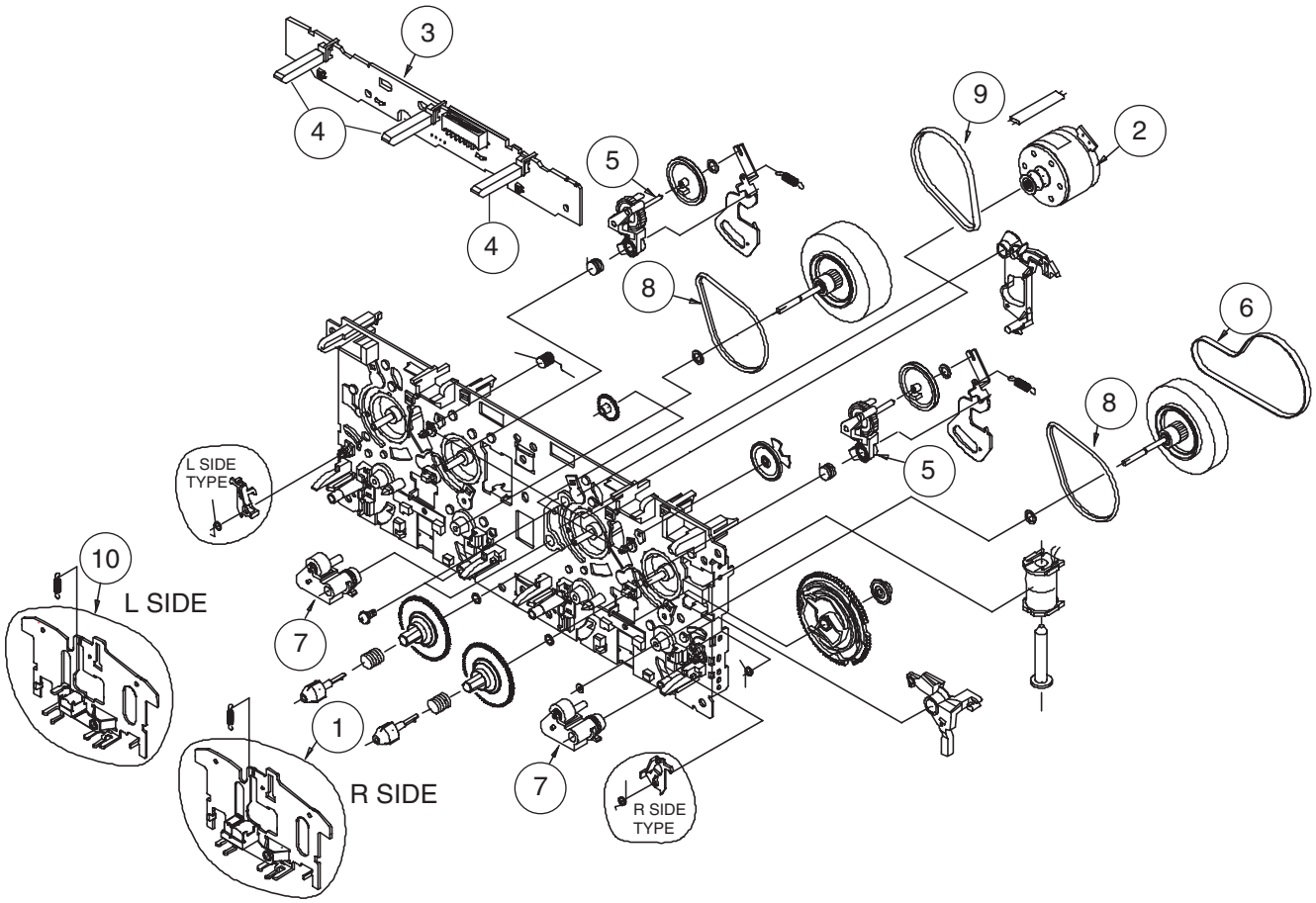
Block No. [M][A][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	BIAJ7200601J	BASE-MAIN	1X1	
2	BIAJ6100601P	BRKT-CHUCK		
3	BI3302000158	MAGNET-FERRITE		
4	BIAJ7200601L	TABLE-CHUCK	1X4	
5	BIAJ6300601A	SHEET-CHUCK	(x3)	
6	BIAJ7300601B	BELT-LOAD		
7	BIAJ6600601N	GEAR-SYNCRO	1X2	
8	BIAJ6600601L	GEAR-CONVERT	1X4	
9	BIAJ6600601M	GEAR-TRAY	1X4	
10	BIAJ6600601R	GEAR-CAM	1X2	
11	BIAJ6600601K	GEAR-LOAD	1X4	
12	BIAJ6600601J	GEAR-PULLEY	1X4	
13	BIAJ7200601N	SLIDER-CAM	1X4	
14	BI3405000101	SWITCH-MICRO	(x2)	
15	BI3711003379	CONNECTOR-HEADE		
16	BIAJ4100601K	PCB-SW		
17	BIAJ6100601K	PULLEY-MOTOR	1X4	
18	BIAJ3100601F	MOTOR-DC		
19	BI3710001248	CONNECTOR-SOCE		
20	BI3711003692	CONNECTOR-HEADE		
21	BI3708001163	CONNECTOR-FPC		
22	BIAJ4100601L	PCB-MECHA		
23	BIAJ7200601P	TRAY-ROULETTE	1X2	
24	BIAJ7200601Q	TRAY-DISC	1X2	
25	BIAJ6600601Q	GEAR-ROULETTE	1X4	
26	BIAJ6600601P	GEAR-WORM	1X2	
27	BIAJ3100601K	MOTOR-LOADING		
28	BIAJ6300601B	SHEET-MOTOR		
29	BIAJ3900601A	WIRE-ROULETTE		
32	BIAJ3900601B	WIRE-TRAY		
33	BI3711000003	CONNECTOR-HEADE		
34	BIAJ4100601J	PCB-SENSOR		
35	BIAJ3200601A	SENSOR-ROULETTE		
36	BIAJ9050605F	CMS-B31NG6U		
37	BIAJ6000601F	SCREW	(x4)	
38A	BIAJ7300601F	RUBBER-B31Y	(x2)	
38B	BIAJ7300601D	RUBBER-B31	(x2)	
39	BIAJ7200602F	LEVER-LIFTER	1X2	

Cassette mechanism assembly and parts list

Block No. M P M M

CMAT6Z219A



Note: Parts listed on the Parts List below can be supplied. However, parts that are not listed below cannot be supplied individually but only by purchasing the whole Cassette Mechanism Assembly Unit. (When ordering, use the Parts No. CMAT6Z219A for Cassette Mechanism Assembly Unit.)

Casette mechanism

Block No. [M][P][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
1	BIF513858	PLATE HD BLK		
2	BIF525346	MTR MAIN BLK		
3	BIF567843	PCB CONTROL BLK		
4	BIUE20P12	LEAF SWITCH	(x3)	
5	BIF522063	CLUTCH ASY BLK	(x2)	
6	BIFF19N31	MAIN BELT		
7	BIF51435	ROLLIER PINCH B	(x2)	
8	BIFF19S31	F/R BELT MO	(x2)	
9	BIFF19N22	MAIN BELT		
10	BIF513855	PLATE HD BLK		

Electrical parts list

AMP. board

Block No. [0][1][0][0]

⚠ Symbol No.	Part No.	Part Name	Description	Local
⚠ C901	BICM682101KP015	M CAPACITOR		
⚠ C902	BICM682101KP015	M CAPACITOR		
⚠ C903	BICM682101KP015	M CAPACITOR		
⚠ C904	BICM682101KP015	M CAPACITOR		
⚠ C905	BICE33865M2	E CAPCITOR		
⚠ C906	BICE33865M2	E CAPCITOR		
⚠ C923	BICM682101KP015	M CAPACITOR		
⚠ C924	BICM682101KP015	M CAPACITOR		
⚠ C925	BICM682101KP015	M CAPACITOR		
⚠ C926	BICM682101KP015	M CAPACITOR		
⚠ C927	BICE47835M61	E CAPCITOR		
⚠ C928	BICE47835M61	E CAPCITOR		
CN307	BI12S90024U	FFC CONNECTOR		
CN701	BI12S110020	CONNECTOR		
CN951	BI12S90025U	CONNECTOR		
D304	1SS133	DIODE		
D305	1SS133	DIODE		
D325	1SS133	DIODE		
D326	1SS133	DIODE		
D327	1SS133	DIODE		
D331	1SS133	DIODE		
D333	1SS133	DIODE		
D334	MTZJ15C	ZENER DIODE		
D335	MTZJ15C	ZENER DIODE		
D336	1SS133	DIODE		
⚠ D901	G5SBA60L	DIODE		
D902	FR202	RECTIFIER DIODE		
D903	FR202	RECTIFIER DIODE		
D904	FR202	RECTIFIER DIODE		
D905	FR202	RECTIFIER DIODE		
D906	1N4001	DIODE		
D907	UZ36BSA	DIODE ZENER		
D908	MTZJ6.2B	DIODE ZENER		
D909	1SS133	DIODE		
D910	MTZJ6.2B	DIODE ZENER		
D911	MTZJ5.6B	DIODE ZENER		
D912	MTZJ13B	ZENER DIODE		
D913	MTZJ12C	DIODE ZENER		
⚠ D914	RS402M	RECTIFIER		
D916	1SS133	DIODE		
⚠ IC304	STK412-030	IC		
L101	BI2601141	COIL		
L201	BI2601141	COIL		
PWB	BI251227G01V	AMP PWB		
Q103	KTC3199GR	TRANSISTOR		
Q104	KTA1267GR	TRANSISTOR		
Q105	KTC3199GR	TRANSISTOR		
Q203	KTC3199GR	TRANSISTOR		
Q204	KTA1267GR	TRANSISTOR		
Q205	KTC3199GR	TRANSISTOR		
Q307	KTC3199GR	TRANSISTOR		
Q334	KRA107M	TRANSISTOR		
Q335	KRA107M	TRANSISTOR		
Q336	KTC3199GR	TRANSISTOR		
Q337	KTC3199GR	TRANSISTOR		
Q338	KTC3199GR	TRANSISTOR		
Q339	DTC114YS	TRANSISTOR		
Q901	8550C	SI.TRANSISTOR		
Q902	DTC114YS	TRANSISTOR		
Q903	DTC114YS	TRANSISTOR		
Q904	KTB1366	TRANSISTOR		
Q905	KTC3199GR	TRANSISTOR		
Q906	KTC3199GR	TRANSISTOR		
Q907	KTB1366	TRANSISTOR		
Q909	KRA107M	TRANSISTOR		
Q911	KTC3199GR	TRANSISTOR		
Q912	DTC114ES	TRANSISTOR		
R390	1SS133	DIODE		
RY301	BI8RL00071	RELAY		

Wiring diagram

Block No. [0][2][0][0]

⚠ Symbol No.	Part No.	Part Name	Description	Local
CN305	BI1205441U	FF-CABLE		
CN306	BI1205261U	FF-CABLE		
CN309	BI1205241U	FF-CABLE		
CN601	BI1205291U	FF-CABLE		
CN604	BI1205251U	FF-CABLE		
CN701	BI1205281U	FF-CABLE		
DECK	BI11AT065B0U	WIRE		
DECKA	BI12P30215U	WIRE		
DECKB	BI12P80102U	WIRE		

Front board

Block No. [0][3][0][0]

⚠ Symbol No.	Part No.	Part Name	Description	Local
CN701	BI12S110021	FFC CONNECTOR		
CN702	BI12P60143U	CONNECTOR. WIRE		
CN703	BI12P60143U	CONNECTOR. WIRE		
CN704	BI1203941	CABLE		
CN705	BI1203941	CABLE		
CN706	BI12S160034U	FFC CONNECTOR		
CN707	BI12S210005	FFC CONNECTOR		
D1051	1SS133	DIODE		
D1052	1SS133	DIODE		
D701	1SS133	DIODE		
D702	1SS133	DIODE		
D703	1SS133	DIODE		
D705	1SS133	DIODE		
D706	1SS133	DIODE		
FL701	BI2701941	FL DISPLAY		
HJ105	BI2301211	MINI JACK		
IC701	MN101C35D	IC		
IC702	RPM7140	IC		
L1051	BI26047000KM002	FIXED INDUCTOR		
L1052	BI26047000KM002	FIXED INDUCTOR		
L1053	BI18A843556N000	F-BEAD		
L702	BI26100000KM002	FIXED.INDUCTOR		
L703	BI18A843556N000	F-BEAD		
L707	BI26100000KM002	FIXED.INDUCTOR		
LE701	BI28B4531EP0110	RED LED		
P1	BI11AT160B0U	BLACK WIRE		
PWB	BI251205G02V	FRONT PCB		
Q704	KTC3195Y	TRANSISTOR		
Q705	KTC3195Y	TRANSISTOR		
Q711	KRA102M	TRANSISTOR		
Q713	DTC114YS	TRANSISTOR		
Q716	DTC114TK	TRANSISTOR		
Q717	DTC114TK	TRANSISTOR		
Q718	DTC114TK	TRANSISTOR		
Q719	DTC114TK	TRANSISTOR		
Q720	DTC114TK	TRANSISTOR		
Q721	DTC114TK	TRANSISTOR		
Q722	DTC114TK	TRANSISTOR		
Q723	DTC114TK	TRANSISTOR		
Q724	DTC114TK	TRANSISTOR		
Q725	DTC114TK	TRANSISTOR		
Q726	DTC114TK	TRANSISTOR		
Q727	DTC114TK	TRANSISTOR		
Q728	DTC114TK	TRANSISTOR		
S1	BI8EVQ21405P015	TACT SWITCH		
S1002	BI8EVQ21405P015	TACT SWITCH		
S1003	BI8EVQ21405P015	TACT SWITCH		
S1004	BI8EVQ21405P015	TACT SWITCH		
S1005	BI8EVQ21405P015	TACT SWITCH		
S1006	BI8EVQ21405P015	TACT SWITCH		
S1007	BI8EVQ21405P015	TACT SWITCH		
S1008	BI8EVQ21405P015	TACT SWITCH		
S1009	BI8EVQ21405P015	TACT SWITCH		

⚠ Symbol No.	Part No.	Part Name	Description	Local
S1010	BI8EVQ21405P015	TACT SWITCH		
S1011	BI8EVQ21405P015	TACT SWITCH		
S1012	BI8EVQ21405P015	TACT SWITCH		
S1013	BI8EVQ21405P015	TACT SWITCH		
S1014	BI8EVQ21405P015	TACT SWITCH		
S1015	BI8EVQ21405P015	TACT SWITCH		
S1016	BI8EVQ21405P015	TACT SWITCH		
S1017	BI8EVQ21405P015	TACT SWITCH		
S1018	BI8EVQ21405P015	TACT SWITCH		
S1019	BI8EVQ21405P015	TACT SWITCH		
S1020	BI8EVQ21405P015	TACT SWITCH		
S1021	BI8EVQ21405P015	TACT SWITCH		
S1022	BI8EVQ21405P015	TACT SWITCH		
S1023	BI8EVQ21405P015	TACT SWITCH		
S2	BI8EVQ21405P015	TACT SWITCH		
S701	BI8EVQ21405P015	TACT SWITCH		
S702	BI8EVQ21405P015	TACT SWITCH		
S703	BI8EVQ21405P015	TACT SWITCH		
S704	BI8EVQ21405P015	TACT SWITCH		
S705	BI8EVQ21405P015	TACT SWITCH		
S706	BI8EVQ21405P015	TACT SWITCH		
SW701	BI804221	JOG SWITCH		
V1051	BI12P40251U	CONNECTOR. WIRE		
X701	BI29ZTA8.00P015	CERAMIC RESONTO		
X702	BI2102471	CRYSTAL		

Main board

Block No. [0][4][0][0]

⚠ Symbol No.	Part No.	Part Name	Description	Local
BF601	BI18A843556N000	F-BEAD		
CF1	BI29LT10.7MP015	C.FILTER		
CF2	BI29LT10.7MP015	C.FILTER		
CF3	BI29JT10.7MP015	C.FILTER		
CN305	BI12S110023U	FFC CONNECTOR		
CN306	BI12S90024U	FFC CONNECTOR		
CN307	BI12S30039	CONNECTOR		
CN308	BI12S80024	CONNECTOR		
CN309	BI12S210004	FFC CONNECTOR		
CN601	BI12S160031	FFC CONNECTOR		
CN602	BI12P60142U	CONNECTOR.WIRE		
CN603	BI12P100035U	CONNECTOR.WIRE		
CN604	BI12S160033U	FFC CONNECTOR		
D1	1SS133	DIODE		
D10	1SS133	DIODE		
D2	1SS133	DIODE		
D3	1SS133	DIODE		
D306	MTZJ9.1B	ZENER DIODE		
D307	MTZJ5.1B	ZENER DIODE		
D308	1SS133	DIODE		
D309	1SS133	DIODE		
D310	1SS133	DIODE		
D311	1SS133	DIODE		
D312	1SS133	DIODE		
D313	1SS133	DIODE		
D314	1SS133	DIODE		
D321	1SS133	DIODE		
D322	1SS133	DIODE		
D323	1N4001	DIODE		
D324	1SS133	DIODE		
D328	1SS133	DIODE		
D329	1SS133	DIODE		
D330	1SS133	DIODE		
D4	1SS133	DIODE		
D401	1SS133	DIODE		
D402	1SS133	DIODE		
D5	1SS133	DIODE		
D50	1SS133	DIODE		
D51	1SS133	DIODE		
D6	1SS133	DIODE		
D605	1N4001	DIODE		
D7	SVC203	VARASTOR.DIODE		
D8	SVC203	VARASTOR.DIODE		

⚠ Symbol No.	Part No.	Part Name	Description	Local
D9	1SS133	DIODE		
IC1	LA1823	IC		
IC101	TDA7440D	IC		
IC102	BA15218F	IC		
IC2	LC72136N	IC		
IC401	HA12237	IC		
IC402	M74HC4094B	IC		
IC601	MN6627482WA	IC		
IC611	AN22000A	I.C C.M		
IC621	BA5936S	IC		
IC631	NJM7808FA	IC		
JA301	BI2301181	RCA W/R JACK		
JA302	BI2301201	TERMINAL ANT		
L1	BI26022000KM002	FIXED INDUCTOR		
L2	BI605082	AM PACK COIL		
L3	BI7A0170	FM COIL		
L301	BI605071	BIAS-COIL		
L304	BI18A843556N000	F-BEAD		
L306	BI18A843556N000	F-BEAD		
L307	BI18A843556N000	F-BEAD		
L4	BI7A0171	FM COIL		
L5	BI26101000KM002	FIXED INDUCTOR		
L50	BI26221000KM002	FIXED INDUCTOR		
L6	BI26220000KM002	FIXED INDUCTOR		
L601	BI26100000KM002	FIXED.INDUCTOR		
L602	BI26100000KM000	FIXED.INDUCTOR		
LC1	BI29GFMB3TP0151	BAND PASS FILTE		
PWB	BI251206G01V	MAIN PWB		
Q1	KTC3194	TRANSISTOR		
Q101	KTC3199GR	TRANSISTOR		
Q2	KTC3195	TRANSISTOR		
Q201	KTC3199GR	TRANSISTOR		
Q3	DTC114YS	TRANSISTOR		
Q302	KTC3200GR	TRANSISTOR		
Q303	KTC3203Y	TRANSISTOR		
Q304	KTA1267GR	TRANSISTOR		
Q305	DTC144ES	TRANSISTOR		
Q308	DTC144ES	TRANSISTOR		
Q309	KTA1273	TRANSISTOR		
Q310	KTC3199GR	TRANSISTOR		
Q311	KTA1273	TRANSISTOR		
Q312	KTC3199GR	TRANSISTOR		
Q313	KTA1273	TRANSISTOR		
Q314	DTC114YS	TRANSISTOR		
Q316	KTC3199GR	TRANSISTOR		
Q317	KTC3199GR	TRANSISTOR		
Q318	DTC114YS	TRANSISTOR		
Q319	KA1270	TRANSISTOR		
Q321	DTC114YS	TRANSISTOR		
Q322	KRA107M	TRANSISTOR		
Q327	KTA1267GR	TRANSISTOR		
Q4	DTC114YS	TRANSISTOR		
Q401	KTA1267GR	TRANSISTOR		
Q402	2SD2144S	TRANSISTOR		
Q403	KTC3199GR	TRANSISTOR		
Q404	KTC3199GR	TRANSISTOR		
Q5	KRA107	TRANSISTOR		
Q502	2SD2144S	TRANSISTOR		
Q503	KTC3199GR	TRANSISTOR		
Q504	KTC3199GR	TRANSISTOR		
Q601	KTA1267GR	TRANSISTOR		
Q7	KTC3199GR	TRANSISTOR		
Q8	KTA1267GR	TRANSISTOR		
T1	BI2901541	CO. FILTER		
X1	BI2100942	CRYSTAL		
X601	BI2102361	CRYSTAL		
XXXXX	BI11A050M0	BLACK.WIRE		
XXXXX	BI202426010101	PLATE ANT		

Transformer board

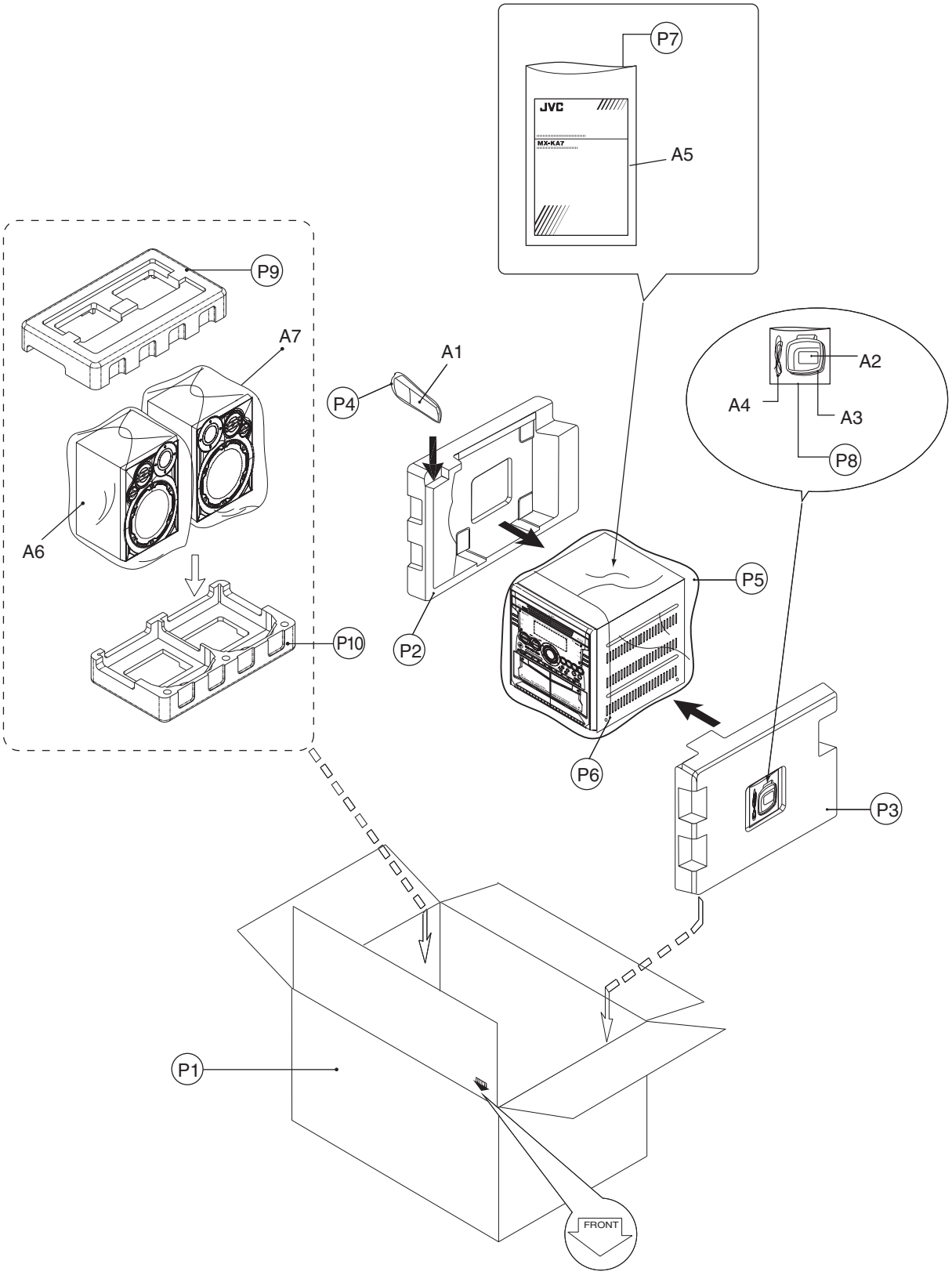
Block No. [0][5][0][0]

⚠ Symbol No.	Part No.	Part Name	Description	Local
⚠ C951	BICT224275M	M.CAPACITOR		
⚠ F951A	BI201196010101	FUSE HOLDER		
⚠ F951B	BI201196010101	FUSE HOLDER		
⚠ F952A	BI201196010101	FUSE HOLDER		
⚠ F952B	BI201196010101	FUSE HOLDER		
FW951	BI12P90055U	CONNECTOR.ASSY		
PWB	BI251223G01V	TRANS PWB		
R951	BIRC3352	RESISTOR		
⚠ TB901	BI201323010101	TERMINAL		
⚠ TB902	BI201323010101	TERMINAL		

<MEMO>

Packing materials and accessories parts list

Block No.M 3 M M



Packing and accessories

Block No. [M][3][M][M]

⚠ Symbol No.	Part No.	Part Name	Description	Local
A 1	BI600MXKA6380	REMOTE CONTROL		
A 2	----------	BATTERY	(x2)	
A 3	BIAN01031	AM LOOP ANT		
A 4	BIAN01012	ANT WIRE		
A 5	BI4412201U	INSTRUCTIONS	LVT1075-001A	
A 6	MXKA7JW-SPBOX-L	SPEAKER BOX L		
A 7	MXKA7JW-SPBOX-R	SPEAKER BOX R		
P 1	BI4313451U	CARTON BOX		
P 2	BI4512251	POLY FORM	Left	
P 3	BI4512261	POLY FORM	Right	
P 4	BI4005355	POLY BAG	REMOTE CONTROL	
P 5	BI4710321	POLY BAG	SET	
P 6	BI4511451	EPE FOAM PAPER	SET	
P 7	BI4710311	POLY BAG	INSTRUCTIONS	
P 8	BI4710511	POLY BAG	ANT LOOP	
P 9	BI4512351	POLY FORM	Top	
P 10	BI4512361	POLY FORM	Bottom	

JVC Manual Change Information

SUBJECT : Addition of part **Date : 14. Feb. 2005**

The following parts have been changed. Please note these new parts in your service manual.
We suggest that you order the parts concerned as apares.
Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

Model & Manual No.	Location	Reference Information	Performed at factory
MX-KA7 JW (No.MB039) CD-ROM No. SML200311V11	Parts list	------	#1~

Some parts numbers are missing on Service Manual No.MB039.
Please utilize the following parts list together with original one.

FOB (New Parts)	Itg	Rsn	Note
----	E	H	

COMMENTS :

ATTACHMENT

( ) NONE ( ) COMPONENT / PWBLAYOUT
( ) SCHEMATIC DIAGRAM ( ) ADJUSTMENT PROCEDURE
( ) EXPLODED VIEW

INTERCHANGEABILITY

A. Completely interchangeable.
B. Previous part can be used for new set,but new part can not be used for previous set.
C. New part can be used for previous set,but previous part can not be used for new set.
D. Not interchangeable.
E. Addition
F. Deletion

REASON FOR CHANGE

A. To improve performance.
B. To improve reliability.
C. To improve safety.
D. To improductivity
E. Standardization of part.
F. For your demand.
G. Correction of misprint.
H. Others.

VICTOR COMPANY OF JAPAN,LTD, AV & Multimedia Company
Global Quality Management Dept.
AV Group. 15300
1-10-1,Ohwatari-chou. Maebashi-shi,Gunma-ken.371-8543, Japan Facsimile : 81-27-254-8977 Telephone : 81-27-254-8952

Main board

⚠	Item	Parts number	Parts name	Remarks
	Q302	BI2KTC3200P0008	Transistor	KTC3200 GR
	D314	BI31SS133M0007	Diode	1SS133
	C923	BICC22350Z	POLYFILM CAP.	0.022UF
	C319	BICE10816M	ELECT. CAP	1000 UF/16 V
	C334	BICE105500MP015	ELECT. CAP	1UF/50V
	C336	BICE105500MP015	ELECT. CAP	1UF/50V
	C405	BICE105500MP015	ELECT. CAP	1UF/50V
	C520	BICE105500MP015	ELECT. CAP	1UF/50V
	C327	BICE106160MP015	ELECT. CAP	10UF/16V
	C346	BICE106160MP015	ELECT. CAP	10UF/16V
	C306	BICE106160MP015	ELECT. CAP	10UF/16V
	C419	BICE106250MP015	ELECT. CAP	10UF/25V
	C519	BICE106250MP015	ELECT. CAP	10UF/25V
	C115	BICE107100MP015	ELECT. CAP	100UF/ 10V
	C215	BICE107100MP015	ELECT. CAP	100UF/ 10V
	C324	BICE107100MP015	ELECT. CAP	100UF/ 10V
	C331	BICE107100MP015	ELECT. CAP	100UF/ 10V
	C305	BICE107160MP015	ELECT. CAP	100UF/ 16V
	C310	BICE107160MP015	ELECT. CAP	100UF/ 16V
	C317	BICE107160MP015	ELECT. CAP	100UF/ 16V
	C107	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C109	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C207	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C209	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C318	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C335	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C407	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C408	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C415	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C507	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C508	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C515	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C333	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C328	BICE476160MP015	ELECT. CAP	47UF/16V
	C332	BICE476160MP015	ELECT. CAP	47UF/16V
	C337	BICE476160MP015	ELECT. CAP	47UF/16V
	C312	BICM103101KP015	POLYFILM CAP.	0.01UF/100V
	C311	BICM103101KP015	POLYFILM CAP.	0.01UF/100V
	C504	BICM103101KP015	POLYFILM CAP.	0.01UF/100V
	C404	BICM103101KP015	POLYFILM CAP.	0.01UF/100V
	C114	BICM104101KP015	POLYFILM CAP.	0.1UF/100V
	C214	BICM104101KP015	POLYFILM CAP.	0.1UF/100V
	C403	BICM104101KP015	POLYFILM CAP.	0.1UF/100V
	C503	BICM104101KP015	POLYFILM CAP.	0.1UF/100V
	C410	BICM104101KP015	POLYFILM CAP.	0.1UF/100V
	C510	BICM104101KP015	POLYFILM CAP.	0.1UF/100V
	C113	BICM124101KP015	POLYFILM CAP.	0.12UF/100V
	C213	BICM124101KP015	POLYFILM CAP.	0.12UF/100V
	C212	BICM562101KP015	POLYFILM CAP.	0.0056UF/100V
	C112	BICM562101KP015	POLYFILM CAP.	0.0056UF/100V
	C110	BICM823101KP015	POLYFILM CAP.	0.082UF/100V
	C111	BICM823101KP015	POLYFILM CAP.	0.082UF/100V
	C210	BICM823101KP015	POLYFILM CAP.	0.082UF/100V
	C211	BICM823101KP015	POLYFILM CAP.	0.082UF/100V
	C330	BICC101500JA041	CHIP CER.CAP.	100P
	C356	BICC101500JA041	CHIP CER.CAP.	100P
	C357	BICC101500JA041	CHIP CER.CAP.	100P
	C101	BICC101500JA041	CHIP CER.CAP.	100P
	C201	BICC101500JA041	CHIP CER.CAP.	100P
	C338	BICC102500KA042	CHIP CER.CAP.	1000P
	C304	BICC102500KA042	CHIP CER.CAP.	1000P
	C309	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C314	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C315	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C316	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C323	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C326	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C329	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C341	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C342	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C345	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C339	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C320	BICC151500JA041	CHIP CER.CAP.	150P
	C321	BICC151500JA041	CHIP CER.CAP.	150P
	C322	BICC151500JA041	CHIP CER.CAP.	150P
	C418	BICC472500KA034	CHIP CER.CAP.	4700 P
	C518	BICC472500KA034	CHIP CER.CAP.	4700 P
	C417	BICC471500JA041	CHIP CER.CAP.	470P
	C517	BICC471500JA041	CHIP CER.CAP.	470P
	C307	BICC821500KA042	CHIP CER.CAP.	820P
	R107	BIRC0000165A005	1/16W	0
	R207	BIRC0000165A005	1/16W	0
	R413	BIRC0000165A005	1/16W	0

Main board

⚠	Item	Parts number	Parts name	Remarks
	R513	BIRC0000165A005	1/16W	0
	R309	BIRC1000165A005	1/16W	10 OHM
	R311	BIRC1000165A005	1/16W	10 OHM
	R403	BIRC1000165A005	1/16W	10 OHM
	R503	BIRC1000165A005	1/16W	10 OHM
	R422	BIRC1000165A005	1/16W	10 OHM
	R522	BIRC1000165A005	1/16W	10 OHM
	R521	BIRC1000165A005	1/16W	10 OHM
	R421	BIRC1000165A005	1/16W	10 OHM
	R305	BIRC1010165A005	1/16W	100 OHM
	R304	BIRC1010165A005	1/16W	100 OHM
	R114	BIRC1020165A005	1/16W	1K
	R214	BIRC1020165A005	1/16W	1K
	R303	BIRC1020165A005	1/16W	1K
	R312	BIRC1020165A005	1/16W	1K
	R338	BIRC1020165A005	1/16W	1K
	R344	BIRC1020165A005	1/16W	1K
	R345	BIRC1020165A005	1/16W	1K
	R370	BIRC1020165A005	1/16W	1K
	R347	BIRC1020165A005	1/16W	1K
	R108	BIRC1030165A005	1/16W	10K
	R113	BIRC1030165A005	1/16W	10K
	R208	BIRC1030165A005	1/16W	10K
	R213	BIRC1030165A005	1/16W	10K
	R308	BIRC1030165A005	1/16W	10K
	R316	BIRC1030165A005	1/16W	10K
	R328	BIRC1030165A005	1/16W	10K
	R354	BIRC1030165A005	1/16W	10K
	R367	BIRC1030165A005	1/16W	10K
	R502	BIRC8220165A005	1/16W	8.2K
	C413	BICC181500JA041	CHIP CER.CAP.	180PJ
	C513	BICC181500JA041	CHIP CER.CAP.	180PJ
	R416	BIRC1230165A005	1/16W	12K
	R516	BIRC1230165A005	1/16W	12K
	R401	BIRC1520165A005	1/16W	1.5K
	R501	BIRC1520165A005	1/16W	1.5K
	C401	BICC222500JA022	CHIP CER.CAP.	2200pF
	C501	BICC222500JA022	CHIP CER.CAP.	2200pF
	C402	BICC222500JA022	CHIP CER.CAP.	2200pF
	C502	BICC222500JA022	CHIP CER.CAP.	2200pF
	C409	BICC821500JA033	CHIP CER.CAP.	820P
	C509	BICC821500JA033	CHIP CER.CAP.	820P
	R352	BIRC3340165A005	1/16W	330K
	R404	BIRC2720165A005	1/16W	2.7K
	R504	BIRC2720165A005	1/16W	2.7K
	C512	BICM183101KP015	POLYFILM CAP.	0.018UF
	C412	BICM183101KP015	POLYFILM CAP.	0.018UF
	C521	BICM332101KP015	POLYFILM CAP.	0.0033uF
	C421	BICM332101KP015	POLYFILM CAP.	0.0033uF
	C308	BICM123101JP015	POLYFILM CAP.	0.012UF
	C202	BICE105500MP215	ELECT. CAP	1uF/50V
	C203	BICE105500MP215	ELECT. CAP	1uF/50V
	C204	BICE105500MP215	ELECT. CAP	1uF/50V
	C205	BICE105500MP215	ELECT. CAP	1uF/50V
	C102	BICE105500MP215	ELECT. CAP	1uF/50V
	C103	BICE105500MP215	ELECT. CAP	1uF/50V
	C104	BICE105500MP215	ELECT. CAP	1uF/50V
	C105	BICE105500MP215	ELECT. CAP	1uF/50V
	X1	BI2100942	Crystal	75KHz
	LC1	BI29GFMB3TP0151	BAND PASS	GFMB3-T
	C47	BICC22350Z	AXIAL CER. CAP.	0.022 UF
	C104	BICE105500MP015	ELECT. CAP	1uF/50V
	C204	BICE105500MP015	ELECT. CAP	1uF/50V
	C16	BICE106250MP015	ELECT. CAP	10UF/16V
	C13	BICE107100MP015	ELECT. CAP	100UF/ 10V
	C59	BICE107100MP015	ELECT. CAP	100UF/ 10V
	C29	BICE224500MP015	ELECT. CAP	0.22UF/50V
	C40	BICE225500MP015	ELECT. CAP	2.2UF/50V
	C41	BICE225500MP015	ELECT. CAP	2.2UF/50V
	C33	BICE226500MP015	ELECT. CAP	22UF/50V
	C30	BICE335500MP015	ELECT. CAP	3.3UF/50V
	C25	BICE475500MP015	ELECT. CAP	4.7UF/50V
	C50	BICE476160MP015	ELECT. CAP	47UF/16V
	C66	BICE476160MP015	ELECT. CAP	47UF/16V
	C17	BICH033500KM013	AXIAL CER. CAP.	3.3pF
	C2	BICH047500KM013	AXIAL CER. CAP.	4.7pF
	C8	BICH056500KM013	AXIAL CER. CAP.	5.6pF
	R24	BIRC2220085M000	1/8W RESISTOR	2K2
	R18	BIRC2240085M000	1/8W RESISTOR	220 K
	R13	BIRC3300085M000	1/8W RESISTOR	33OHM
	R11	BIRC3310085M000	1/8W RESISTOR	330 OHM
	R14	BIRC3310085M000	1/8W RESISTOR	330 OHM
	R57	BIRC3310085M000	1/8W RESISTOR	330 OHM

Main board

⚠	Item	Parts number	Parts name	Remarks
	R21	BIRC3320085M000	1/8W RESISTOR	3.3 K
	R53	BIRC3320085M000	1/8W RESISTOR	3.3 K
	R71	BIRC3320085M000	1/8W RESISTOR	3.3 K
	R52	BIRC4720085M000	1/8W RESISTOR	4.7K
	R55	BIRC4720085M000	1/8W RESISTOR	4.7K
	R6	BIRC4730085M000	1/8W RESISTOR	47 K
	R7	BIRC4730085M000	1/8W RESISTOR	47 K
	R66	BIRC4730085M000	1/8W RESISTOR	47 K
	R67	BIRC4730085M000	1/8W RESISTOR	47 K
	R68	BIRC4730085M000	1/8W RESISTOR	47 K
	R69	BIRC4730085M000	1/8W RESISTOR	47 K
	R70	BIRC4730085M000	1/8W RESISTOR	47 K
	R12	BIRC4740085M000	1/8W RESISTOR	470K
	R28	BIRC5630085M000	1/8W RESISTOR	56 K
	R74	BIRC1510045M000	1/8W RESISTOR	150 OHM
	X601	BI2102361	Crystal	16.9344MHz
	C622	BICE106160MP015	ELECT.CAP.	10uF/16V
	C618	BICE106500MP015	ELECT.CAP.	10uF/50V
	C649	BICE106500MP015	ELECT.CAP.	10uF/50V
	C639	BICE107100MP015	ELECT.CAP.	100UF/10V
	C605	BICE227100MP015	ELECT.CAP.	220UF/10V
	C610	BICE227100MP015	ELECT.CAP.	220UF/10V
	C621	BICE227100MP015	ELECT.CAP.	220UF/10V
	C631	BICE227100MP015	ELECT.CAP.	220UF/10V
	C624	BICE476100MP015	ELECT.CAP.	47UF/10V
	C673	BICC101500JA041	CHIP CER.CAP.	100P
	C660	BICC102500KA042	CHIP CER.CAP.	1000P
	C661	BICC102500KA042	CHIP CER.CAP.	1000P
	C623	BICC222500KA042	CHIP CER.CAP.	2200P
	C606	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C608	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C611	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C619	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C620	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C626	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C638	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C629	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C604	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C613	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C665	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C651	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C616	BICC150500JA041	CHIP CER.CAP.	15P
	C617	BICC150500JA041	CHIP CER.CAP.	15P
	C633	BICC182500KA042	CHIP CER.CAP.	1800P
	C602	BICC222500KA042	CHIP CER.CAP.	2200P
	C603	BICC222500KA042	CHIP CER.CAP.	2200P
	C630	BICC222500KA042	CHIP CER.CAP.	2200P
	C607	BICC223500KA042	CHIP CER.CAP.	0.022uF
	C612	BICC223500KA042	CHIP CER.CAP.	0.022uF
	C640	BICC223500KA042	CHIP CER.CAP.	0.022uF
	C659	BICC223500KA042	CHIP CER.CAP.	0.022uF
	C635	BICC224500KA042	CHIP CER.CAP.	0.22uF
	C601	BICC334160KA034	CHIP CER.CAP.	0.33UF
	C615	BICC334160KA034	CHIP CER.CAP.	0.33UF
	C652	BICC334160KA034	CHIP CER.CAP.	0.33UF
	C658	BICC391500JA041	CHIP CER.CAP.	390P
	C653	BICC391500JA041	CHIP CER.CAP.	390P
	C643	BICC471500JA041	CHIP CER.CAP.	470P
	C637	BICC474100KA042	CHIP CER.CAP.	0.47UF
	C634	BICC562500KA042	CHIP CER.CAP.	5600P
	JR602	BIRC0000165A005	CHIP JUMPER	0
	JR601	BIRC0000165A005	CHIP JUMPER	0
	JR603	BIRC0000165A005	CHIP JUMPER	0
	R641	BIRC0000165A005	CHIP JUMPER	0
	R607	BIRC0000165A005	CHIP JUMPER	0
	R601	BIRC0000165A005	CHIP JUMPER	0
	R415	BIRC1030165A005	1/16W	10K
	R327	BIRC1030165A005	1/16W	10K
	R408	BIRC1030165A005	1/16W	10K
	R508	BIRC1030165A005	1/16W	10K
	R515	BIRC1030165A005	1/16W	10K
	R375	BIRC1030165A005	1/16W	10K
	R409	BIRC1030165A005	1/16W	10K
	R414	BIRC1030165A005	1/16W	10K
	R357	BIRC1040165A005	1/16W	100K
	R358	BIRC1040165A005	1/16W	100K
	R306	BIRC1050165A005	1/16W	1M
	R109	BIRC1220165A005	1/16W	1.2K
	R209	BIRC1220165A005	1/16W	1.2K
	R333	BIRC1510165A005	1/16W	150 OHM
	R336	BIRC1510165A005	1/16W	150 OHM
	R364	BIRC1530165A005	1/16W	15K
	R105	BIRC1540165A005	1/16W	150K

Main board

⚠	Item	Parts number	Parts name	Remarks
	R205	BIRC1540165A005	1/16W	150K
	R424	BIRC1820165A005	1/16W	1.8K
	R349	BIRC2210165A005	1/16W	220 OHM
	R103	BIRC2220165A005	1/16W	2.2K
	R104	BIRC2220165A005	1/16W	2.2K
	R110	BIRC2220165A005	1/16W	2.2K
	R203	BIRC2220165A005	1/16W	2.2K
	R204	BIRC2220165A005	1/16W	2.2K
	R210	BIRC2220165A005	1/16W	2.2K
	R321	BIRC2220165A005	1/16W	2.2K
	R322	BIRC2220165A005	1/16W	2.2K
	R323	BIRC2220165A005	1/16W	2.2K
	R324	BIRC2220165A005	1/16W	2.2K
	R325	BIRC2220165A005	1/16W	2.2K
	R339	BIRC2220165A005	1/16W	2.2K
	R340	BIRC2220165A005	1/16W	2.2K
	R341	BIRC2220165A005	1/16W	2.2K
	R418	BIRC2220165A005	1/16W	2.2K
	R518	BIRC2220165A005	1/16W	2.2K
	R423	BIRC2220165A005	1/16W	2.2K
	R523	BIRC2220165A005	1/16W	2.2K
	R307	BIRC2220165A005	1/16W	2.2K
	R211	BIRC2220165A005	1/16W	2.2K
	R407	BIRC2220165A005	1/16W	2.2K
	R507	BIRC2220165A005	1/16W	2.2K
	R111	BIRC2220165A005	1/16W	2.2K
	R115	BIRC2230165A005	1/16W	22K
	R215	BIRC2230165A005	1/16W	22K
	R319	BIRC2230165A005	1/16W	22K
	R329	BIRC2230165A005	1/16W	22K
	R371	BIRC2230165A005	1/16W	22K
	R361	BIRC2230165A005	1/16W	22K
	R374	BIRC2230165A005	1/16W	22K
	R302	BIRC2230165A005	1/16W	22K
	R348	BIRC2230165A005	1/16W	22K
	R331	BIRC3320165A005	1/16W	3.3K
	R334	BIRC3320165A005	1/16W	3.3K
	R337	BIRC3320165A005	1/16W	3.3K
	R365	BIRC3320165A005	1/16W	3.3K
	R310	BIRC3900105A002	1/16W	39 OHM
	R101	BIRC3930165A005	1/16W	39K
	R201	BIRC3930165A005	1/16W	39K
	R346	BIRC4700165A005	1/16W	47 OHM
	R359	BIRC4710165A005	1/16W	470 OHM
	R363	BIRC4710165A005	1/16W	470 OHM
	R355	BIRC4710165A005	1/16W	470 OHM
	R317	BIRC4720165A005	1/16W	4.7K
	R332	BIRC4720165A005	1/16W	4.7K
	R335	BIRC4720165A005	1/16W	4.7K
	R406	BIRC4720165A005	1/16W	4.7K
	R506	BIRC4720165A005	1/16W	4.7K
	R320	BIRC4730165A005	1/16W	47K
	R330	BIRC4730165A005	1/16W	47K
	R369	BIRC4730165A005	1/16W	47K
	R368	BIRC4730165A005	1/16W	47K
	R112	BIRC5620165A005	1/16W	5.6K
	R212	BIRC5620165A005	1/16W	5.6K
	R106	BIRC5620165A005	1/16W	5.6K
	R206	BIRC5620165A005	1/16W	5.6K
	R417	BIRC5620165A005	1/16W	5.6K
	R517	BIRC5620165A005	1/16W	5.6K
	R366	BIRC6820165A005	1/16W	6.8K
	R102	BIRC8220165A005	1/16W	8.2K
	R202	BIRC8220165A005	1/16W	8.2K
	R405	BIRC8220165A005	1/16W	8.2K
	R505	BIRC8220165A005	1/16W	8.2K
	R402	BIRC8220165A005	1/16W	8.2K
	C32	BICH082500KM013	AXIAL CER. CAP.	8.2pF
	C6	BICH100500JM013	AXIAL CER. CAP.	10 Pf
	C44	BICH100500JM013	AXIAL CER. CAP.	10 pF
	C61	BICH101500KM019	AXIAL CER. CAP.	100pF
	C62	BICH101500KM019	AXIAL CER. CAP.	100pF
	C63	BICH101500KM019	AXIAL CER. CAP.	100pF
	C3	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C22	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C24	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C38	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C39	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C42	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C43	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C58	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C70	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C71	BICH102500KM019	AXIAL CER. CAP.	0.001UF

Main board

⚠	Item	Parts number	Parts name	Remarks
	C46	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C10	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C12	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C18	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C19	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C20	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C23	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C56	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C60	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C31	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C67	BICH103160NM024	AXIAL CER. CAP.	0.01UF
	C57	BICH103500KM019	AXIAL CER. CAP.	0.01uF
	C7	BICH120500JM013	AXIAL CER. CAP.	12pF
	C51	BICH120500JM013	AXIAL CER. CAP.	12pF
	C52	BICH120500JM013	AXIAL CER. CAP.	12pF
	C21	BICH120500JM013	AXIAL CER. CAP.	12pF
	C27	BICH222160MM020	AXIAL CER. CAP.	0.0022UF
	C1	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C4	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C14	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C34	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C65	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C15	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C35	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C45	BICH223250ZM018	AXIAL CER. CAP.	0.022UF
	C55	BICH471500KM019	AXIAL CER. CAP.	470pF
	C64	BICH471500KM019	AXIAL CER. CAP.	470pF
	C5	BICH473500ZM018	AXIAL CER. CAP.	0.047UF
	C9	BICH473500ZM018	AXIAL CER. CAP.	0.047UF
	C11	BICH473500ZM018	AXIAL CER. CAP.	0.047UF
	C53	BICM105500JP015	POLYFILM CAP.	1UF
	C36	BICM183101KP015	POLYFILM CAP.	0.018UF
	C37	BICM183101KP015	POLYFILM CAP.	0.018UF
	C54	BICM392101KP015	POLYFILM CAP.	0.0039UF
	C28	BICM474500JP015	POLYFILM CAP.	0.47UF
	R8	BIRC1000085M000	1/8W RESISTOR	10 OHM
	R9	BIRC1000085M000	1/8W RESISTOR	10 OHM
	R16	BIRC1000085M000	1/8W RESISTOR	10 OHM
	R17	BIRC1010085M000	1/8W RESISTOR	100 OHM
	R20	BIRC1010085M000	1/8W RESISTOR	100 OHM
	R58	BIRC1010085M000	1/8W RESISTOR	100 OHM
	R10	BIRC1010085M000	1/8W RESISTOR	100 OHM
	R3	BIRC1020085M000	1/8W RESISTOR	1 K
	R51	BIRC1020085M000	1/8W RESISTOR	1 K
	R60	BIRC1020085M000	1/8W RESISTOR	1 K
	R61	BIRC1020085M000	1/8W RESISTOR	1 K
	R62	BIRC1020085M000	1/8W RESISTOR	1 K
	R63	BIRC1020085M000	1/8W RESISTOR	1 K
	R64	BIRC1020085M000	1/8W RESISTOR	1 K
	R65	BIRC1020085M000	1/8W RESISTOR	1 K
	R73	BIRC1020085M000	1/8W RESISTOR	1 K
	R59	BIRC1030085M000	1/8W RESISTOR	10 K
	R76	BIRC1030085M000	1/8W RESISTOR	10 K
	R5	BIRC1040085M000	1/8W RESISTOR	100 K
	R22	BIRC1040085M000	1/8W RESISTOR	100 K
	R72	BIRC1040085M000	1/8W RESISTOR	100 K
	R2	BIRC1040085M000	1/8W RESISTOR	100 K
	R4	BIRC1040085M000	1/8W RESISTOR	100 K
	R19	BIRC1220085M000	1/8W RESISTOR	1.2 K
	R1	BIRC1520085M000	1/8W RESISTOR	1.5 K
	R15	BIRC1530085M000	1/8W RESISTOR	15 K
	R54	BIRC1820085M000	1/8W RESISTOR	1.8K
	R27	BIRC2200085M000	1/8W RESISTOR	22
	R75	BIRC2200085M000	1/8W RESISTOR	22
	R25	BIRC2220085M000	1/8W RESISTOR	2K2
	R26	BIRC2220085M000	1/8W RESISTOR	2K2
	R56	BIRC2220085M000	1/8W RESISTOR	2K2
	R23	BIRC2220085M000	1/8W RESISTOR	2K2
	R608	BIRC0000165A005	CHIP JUMPER	0
	R609	BIRC0000165A005	CHIP JUMPER	0
	R669	BIRC0000165A005	CHIP JUMPER	0
	R603	BIRC1020165A005	1/16W	1K
	R604	BIRC1020165A005	1/16W	1K
	R614	BIRC1020165A005	1/16W	1K
	R616	BIRC1020165A005	1/16W	1K
	R662	BIRC1020165A005	1/16W	1K
	R647	BIRC1030165A005	1/16W	10K
	R648	BIRC1030165A005	1/16W	10K
	R660	BIRC3330165A005	1/16W	33K
	R621	BIRC1040165A005	1/16W	100K
	R617	BIRC1050165A005	1/16W	1M
	R623	BIRC1240165A005	1/16W	120K
	R605	BIRC2210165A005	1/16W	220

Main board

⚠	Item	Parts number	Parts name	Remarks
	R664	BIRC2210165A005	1/16W	220
	R663	BIRC2220165A005	1/16W	2.2K
	R626	BIRC2240165A005	1/16W	220K
	R620	BIRC2240165A005	1/16W	220K
	R645	BIRC2240165A005	1/16W	220K
	R625	BIRC2710165A005	1/16W	270
	R656	BIRC2720165A005	1/16W	2.7K
	R628	BIRC2720165A005	1/16W	2.7K
	R637	BIRC2720165A005	1/16W	2.7K
	R655	BIRC2430165A005	1/16W	24K
	R657	BIRC3920165A005	1/16W	3.9K
	R651	BIRC3930165A005	1/16W	39K
	R644	BIRC3330165A005	1/16W	33K
	R635	BIRC3930165A005	1/16W	39K
	R642	BIRC1840165A005	1/16W	180K
	R650	BIRC4720165A005	1/16W	4.7K
	R665	BIRC4720165A005	1/16W	4.7K
	R636	BIRC4720165A005	1/16W	4.7K
	R618	BIRC6820165A005	1/16W	6.8K
	R654	BIRC6820165A005	1/16W	6.8K
	R633	BIRC8200165A005	1/16W	82 OHM
	R671	BIRC8220165A005	1/16W	8.2K
	R675	BIRC8220165A005	1/16W	8.2K
	R643	BIRC1540165A005	1/16W	150K
	R646	BIRC8240165A005	1/16W	820K
	C625	BICC121500JA041	CHIP CER.CAP.	120P
	C627	BICC121500JA041	CHIP CER.CAP.	120P
	C628	BICC273250KA042	CHIP CER.CAP.	0.027uF
	C632	BICC273250KA042	CHIP CER.CAP.	0.027uF
	C644	BICC820500JA041	CHIP CER.CAP.	82P
	C645	BICC820500JA041	CHIP CER.CAP.	82P
	C609	BICC681250JA041	POLYFILM CAP.	680PF
	R638	BIRC9110165A005	1/16W	910 OHM
	R632	BIRC0470165A005	1/16W	4.7 OHM
	R615	BIRC1230165A005	1/16W	12K
	C642	BICC181500JA041	CHIP CER.CAP.	180P
	C614	BICC684250KA039	CHIP CER.CAP.	0.68uF
	R659	BIRC4730165A005	1/16W	47K
	R670	BIRC1540165A005	1/16W	150K
	R652	BIRC1820165A005	1/16W	1.8K
	R653	BIRC1820165A005	1/16W	1.8K
	C636	BICC333250KA042	CHIP CER.CAP.	0.033UF
	R602	BIRC2200165A005	1/16W	22 OHM
	C650	BICE477100MP015	ELECT. CAP.	470UF/10V
	C648	BICH102500KM019	AXIAL CER. CAP.	0.001UF
	C657	BICH104500ZM018	AXIAL CER. CAP.	0.1uF
	C664	BICH104500ZM018	AXIAL CER. CAP.	0.1uF
	C656	BICH103500KM019	AXIAL CER. CAP.	0.01uF
	IC631	BI110061	IC	NJM7808FA
	C668	BICE227160MP015	ELECT. CAP.	220UF/16V

Front board

△ !	Item	Parts number	Parts name	Remarks
	R1066	BIRC1030085M000	1/8W RESISTOR	10K
	R779	BIRC1030085M000	1/8W RESISTOR	10K
	R776	BIRC1030085M000	1/8W RESISTOR	10K
	R1048	BIRC1030085M000	1/8W RESISTOR	10K
	R1028	BIRC8210085M000	1/8W RESISTOR	820 OHM
	R1003	BIRC8210085M000	1/8W RESISTOR	820 OHM
	R1002	BIRC6810085M000	1/8W RESISTOR	680 OHM
	R1010	BIRC6810085M000	1/8W RESISTOR	680 OHM
	R1008	BIRC6810085M000	1/8W RESISTOR	680 OHM
	R1004	BIRC1020085M000	1/8W RESISTOR	1 K
	R1031	BIRC2220085M000	1/8W RESISTOR	2K2
	R758	BIRC2220085M000	1/8W RESISTOR	2K2
	R782	BIRC2220085M000	1/8W RESISTOR	2K2
	R1060	BIRC2220085M000	1/8W RESISTOR	2K2
	R1027	BIRC2220085M000	1/8W RESISTOR	2K2
	R1030	BIRC2220085M000	1/8W RESISTOR	2K2
	R1035	BIRC2220085M000	1/8W RESISTOR	2K2
	R1069	BIRC4730085M000	1/8W RESISTOR	47 K
	R1047	BIRC4730085M000	1/8W RESISTOR	47 K
	R12	BIRC4730085M000	1/8W RESISTOR	47 K
	R13	BIRC4730085M000	1/8W RESISTOR	47 K
	R766	BIRC4730085M000	1/8W RESISTOR	47 K
	R1075	BIRC4730085M000	1/8W RESISTOR	47 K
	R1024	BIRC5620085M000	1/8W RESISTOR	5.6 K
	R774	BIRC1820085M000	1/8W RESISTOR	1K8
	R11	BIRC4730085N000	1/8W RESISTOR	47 K
	R768	BIRC4730085N000	1/8W RESISTOR	47 K
	R1068	BIRC1030085N000	1/8W RESISTOR	10 K
	R767	BIRC1020085N000	1/8W RESISTOR	1 K
	R757	BIRC1020085N000	1/8W RESISTOR	1 K

Front board

⚠	Item	Parts number	Parts name	Remarks
	R770	BIRC2220085N000	1/8W RESISTOR	2K2
	R752	BIRC4720165A005	1/16W	4.7K
	R1046	BIRC4720165A005	1/16W	4.7K
	R791	BIRC4720165A005	1/16W	4.7K
	R701	BIRC4730165A005	1/16W	47K
	R702	BIRC4730165A005	1/16W	47K
	R703	BIRC4730165A005	1/16W	47K
	R704	BIRC4730165A005	1/16W	47K
	R705	BIRC4730165A005	1/16W	47K
	R706	BIRC4730165A005	1/16W	47K
	R707	BIRC4730165A005	1/16W	47K
	R708	BIRC4730165A005	1/16W	47K
	R709	BIRC4730165A005	1/16W	47K
	R710	BIRC4730165A005	1/16W	47K
	R711	BIRC4730165A005	1/16W	47K
	R712	BIRC4730165A005	1/16W	47K
	R713	BIRC4730165A005	1/16W	47K
	R714	BIRC4730165A005	1/16W	47K
	R715	BIRC4730165A005	1/16W	47K
	R716	BIRC4730165A005	1/16W	47K
	R717	BIRC4730165A005	1/16W	47K
	R718	BIRC4730165A005	1/16W	47K
	R719	BIRC4730165A005	1/16W	47K
	R720	BIRC4730165A005	1/16W	47K
	R721	BIRC4730165A005	1/16W	47K
	R722	BIRC4730165A005	1/16W	47K
	R723	BIRC4730165A005	1/16W	47K
	R724	BIRC4730165A005	1/16W	47K
	R725	BIRC4730165A005	1/16W	47K
	R726	BIRC4730165A005	1/16W	47K
	R727	BIRC4730165A005	1/16W	47K
	R728	BIRC4730165A005	1/16W	47K
	R729	BIRC4730165A005	1/16W	47K
	R730	BIRC4730165A005	1/16W	47K
	R731	BIRC4730165A005	1/16W	47K
	R732	BIRC4730165A005	1/16W	47K
	R733	BIRC4730165A005	1/16W	47K
	R734	BIRC4730165A005	1/16W	47K
	R735	BIRC4730165A005	1/16W	47K
	R1	BIRC4730165A005	1/16W	47K
	R2	BIRC4730165A005	1/16W	47K
	R3	BIRC4730165A005	1/16W	47K
	R4	BIRC4730165A005	1/16W	47K
	R5	BIRC4730165A005	1/16W	47K
	R6	BIRC4730165A005	1/16W	47K
	R7	BIRC4730165A005	1/16W	47K
	R8	BIRC4730165A005	1/16W	47K
	R9	BIRC4730165A005	1/16W	47K
	R1074	BIRC4730165A005	1/16W	47K
	R777	BIRC4730165A005	1/16W	47K
	R761	BIRC4730165A005	1/16W	47K
	R1043	BIRC4730165A005	1/16W	47K
	R1033	BIRC5620165A005	1/16W	5.6K
	R1041	BIRC5630165A005	1/16W	56K
	R1042	BIRC5630165A005	1/16W	56K
	R1001	BIRC6810165A005	1/16W	680 OHM
	R1009	BIRC6810165A005	1/16W	680 OHM
	R1017	BIRC6810165A005	1/16W	680 OHM
	R1018	BIRC6810165A005	1/16W	680 OHM
	R794	BIRC6810165A005	1/16W	680 OHM
	R795	BIRC6810165A005	1/16W	680 OHM
	R1011	BIRC8210165A005	1/16W	820 OHM
	R1019	BIRC8210165A005	1/16W	820 OHM
	R742	BIRC2220085A003	1/8W RESISTOR	2.2K
	R743	BIRC2220085A003	1/8W RESISTOR	2.2K
	R749	BIRC4720085A003	1/8W RESISTOR	4.7K
	R10	BIRC4730085A003	1/8W RESISTOR	47K
	JR701	BIRC0000165A005	1/16W JUMPER	0 OHM
	JR702	BIRC0000165A005	1/16W JUMPER	0 OHM
	JR703	BIRC0000165A005	1/16W JUMPER	0 OHM
	C723	BICE105500MP015	ELECT CAP	1UF/ 50V
	C718	BICE226500MP015	ELECT CAP	22UF/ 50V
	C719	BICE226500MP015	ELECT CAP	22UF/ 50V
	C716	BICE476100MP015	ELECT CAP	47UF/10V
	IC701	BI116021	IC	MN101C35D
	C740	BICC101500JA041	CHIP CER.CAP.	100P
	C705	BICC102500KA042	CHIP CER.CAP.	1000P
	C706	BICC102500KA042	CHIP CER.CAP.	1000P
	C715	BICC102500KA042	CHIP CER.CAP.	1000P
	C1051	BICC102500KA042	CHIP CER.CAP.	1000P
	C1052	BICC102500KA042	CHIP CER.CAP.	1000P
	C713	BICC104250ZA043	CHIP CER.CAP.	0.1UF
	C717	BICC104250ZA043	CHIP CER.CAP.	0.1UF

Front board

⚠	Item	Parts number	Parts name	Remarks
	R775	BIRC1020165A005	1/16W	1K
	C711	BICC220500JA041	CHIP CER.CAP.	22P
	C712	BICC220500JA041	CHIP CER.CAP.	22P
	C708	BICC330500JA041	CHIP CER.CAP.	33P
	C707	BICC390500JA041	CHIP CER.CAP.	39P
	C701	BICC104250ZA040	CHIP CER.CAP.	0.1UF
	R778	BIRC1020165A005	1/16W	1K
	R788	BIRC1020165A005	1/16W	1K
	R790	BIRC1020165A005	1/16W	1K
	R796	BIRC1020165A005	1/16W	1K
	R1012	BIRC1020165A005	1/16W	1K
	R1020	BIRC1020165A005	1/16W	1K
	R1061	BIRC1020165A005	1/16W	1K
	R769	BIRC1020165A005	1/16W	1K
	R798	BIRC1020165A005	1/16W	1K
	R1044	BIRC1020165A005	1/16W	1K
	R1065	BIRC1020165A005	1/16W	1K
	R1067	BIRC1020165A005	1/16W	1K
	R793	BIRC1020165A005	1/16W	1K
	R1036	BIRC1020165A005	1/16W	1K
	R783	BIRC1020165A005	1/16W	1K
	R781	BIRC1020165A005	1/16W	1K
	R764	BIRC1020165A005	1/16W	1K
	R772	BIRC1020165A005	1/16W	1K
	R787	BIRC1030165A005	1/16W	10K
	R786	BIRC1030165A005	1/16W	10K
	R1064	BIRC1230165A005	1/16W	12K
	R1034	BIRC1230165A005	1/16W	12K
	R1005	BIRC1520165A005	1/16W	1.5K
	R1013	BIRC1520165A005	1/16W	1.5K
	R1021	BIRC1520165A005	1/16W	1.5K
	R1049	BIRC1520165A005	1/16W	1.5K
	R738	BIRC2210165A005	1/16W	220 OHM
	R739	BIRC2210165A005	1/16W	220 OHM
	R740	BIRC2210165A005	1/16W	220 OHM
	R744	BIRC2210165A005	1/16W	220 OHM
	R797	BIRC2210165A005	1/16W	220 OHM
	R765	BIRC2210165A005	1/16W	220 OHM
	R1026	BIRC2220165A005	1/16W	2.2K
	R753	BIRC2220165A005	1/16W	2.2K
	R754	BIRC2220165A005	1/16W	2.2K
	R755	BIRC2220165A005	1/16W	2.2K
	R756	BIRC2220165A005	1/16W	2.2K
	R773	BIRC2220165A005	1/16W	2.2K
	R1045	BIRC2220165A005	1/16W	2.2K
	R780	BIRC2220165A005	1/16W	2.2K
	R784	BIRC2220165A005	1/16W	2.2K
	R785	BIRC2220165A005	1/16W	2.2K
	R745	BIRC2220165A005	1/16W	2.2K
	R746	BIRC2220165A005	1/16W	2.2K
	R789	BIRC2220165A005	1/16W	2.2K
	R747	BIRC2220165A005	1/16W	2.2K
	R748	BIRC2220165A005	1/16W	2.2K
	R1014	BIRC2220165A005	1/16W	2.2K
	R1022	BIRC2220165A005	1/16W	2.2K
	R14	BIRC2220165A005	1/16W	2.2K
	R1037	BIRC2230165A005	1/16W	22K
	R1038	BIRC2230165A005	1/16W	22K
	R1015	BIRC2720165A005	1/16W	2.7K
	R1023	BIRC2720165A005	1/16W	2.7K
	R1032	BIRC2720165A005	1/16W	2.7K
	R799	BIRC3310165A005	1/16W	330 OHM
	R750	BIRC4720165A005	1/16W	4.7K
	R751	BIRC4720165A005	1/16W	4.7K
	JR2	BIRC0000165A005	1/16W JUMPER	0 OHM
	C1001	BICC103101MA039	CHIP CER.CAP.	0.01uF
	C1002	BICC103101MA039	CHIP CER.CAP.	0.01uF
	R792	BIRC2700165A005	1/16W	27 OHM
	R741	BIRC6840165A005	1/16W	680K
	R736	BIRC1010165A005	1/16W	100 OHM
	R737	BIRC1010165A005	1/16W	100 OHM
	JR1	BIRC0000085A003	1/8W JUMPER	0 OHM
	JR704	BIRC0000085A003	1/8W JUMPER	0 OHM
	C709	BICC330500JA033	CHIP CER.CAP.	33P
	C796	BICC101500JA033	CHIP CER.CAP.	100P
	C710	BICC270500JA041	CHIP CER.CAP.	27P
	C714	BICC103500KA042	CHIP CER.CAP.	0.01UF
	C797	BICC103500KA042	CHIP CER.CAP.	0.01UF
	R771	BIRC2210085N000	1/8W RESISTOR	220 OHM
	R1063	BIRC2210085N000	1/8W RESISTOR	220 OHM
	R1062	BIRC2210085N000	1/8W RESISTOR	220 OHM
	R762	BIRC4720085M000	1/8W RESISTOR	4.7K
	C720	BICE107350MP015	ELECT. CAP.	100uF /35V

Front board

⚠	Item	Parts number	Parts name	Remarks
	C702	BICE107100MP015	ELECT. CAP.	100UF/10V
	C704	BICE108100MP015	ELECT. CAP.	1000UF/10V
	R759	BIRC0100085M000	1/8W RESISTOR	1 OHM
	R760	BIRC0100085M000	1/8W RESISTOR	1 OHM

AMP.board

⚠	Item	Parts number	Parts name	Remarks
	C914	BICH103500KM019	Axial Cap	0.01UF/50V
	C918	BICH103500KM019	Axial Cap	0.01UF/50V
	C228	BICH270500JM013	Axial Cap	27P/50V
	C121	BICH270500JM013	Axial Cap	27P/50V
	C119	BICH122500JM013	Axial Cap	1200P/50V
	C 219	BICH122500JM013	Axial Cap	1200P/50V
	C126	BICM104101KP015	Mylar cap	0,1UF/100V
	C 226	BICM104101KP015	Mylar cap	0.1UF/100V
	C381	BICH223500KM019	Axial Cap	0.022UF/50V
	C999	BICM682101KP015	Mylar cap	0.0068UF/100V
	C998	BICM682101KP015	Mylar cap	0.0068UF/100V
	C118	BICE475500MP015	Elect. Cap	4.7UF/50V
	C218	BICE475500MP015	Elect. Cap	4.7UF/50V
	C351	BICE475500MP015	Elect. Cap	4.7UF/50V
	C917	BICE475500MP015	Elect. Cap	4.7UF/50V
	C916	BICE106250MP015	Elect. Cap	10UF/25V
	C355	BICE106250MP015	Elect. Cap	10UF/25V
	C921	BICE107160MP015	Elect. Cap	100UF/16V
	R117	BIRC2220085M000	Resistor	2.2K OHM
	R217	BIRC2220085M000	Resistor	2.2K OHM
	R388	BIRC2220085M000	Resistor	2.2K OHM
	R391	BIRC2220085M000	Resistor	2.2K OHM
	R119	BIRC2220085M000	Resistor	2.2K OHM
	R219	BIRC2220085M000	Resistor	2.2K OHM
	R2	BIRC2220085M000	Resistor	2.2K OHM
	R131	BIRC1030085M000	Resistor	10K OHM
	R134	BIRC1030085M000	Resistor	10K OHM
	R231	BIRC1030085M000	Resistor	10K OHM
	R234	BIRC1030085M000	Resistor	10K OHM
	R389	BIRC1030085M000	Resistor	10K OHM
	R906	BIRC1030085M000	Resistor	10K OHM
	R389	BIRC1030085M000	Resistor	10K OHM
	C908	BICH104500KM019	Axial Cap	0.1UF/50V
	C909	BICH104500KM019	Axial Cap	0.1UF/50V
	C910	BICH104500KM019	Axial Cap	0.1UF/50V
	C920	BICH104500KM019	Axial Cap	0.1UF/50V
	R152	BIRC4730085M000	Resistor	47K OHM
	R151	BIRC1530085M000	Resistor	15K OHM
	R251	BIRC1530085M000	Resistor	15K OHM
	R137	BIRC1040085M000	Resistor	100K OHM
	R237	BIRC1040085M000	Resistor	100K OHM
	R385	BIRC1040085M000	Resistor	100K OHM
	R236	BIRC1020085M000	Resistor	1K OHM
	R238	BIRC1020085M000	Resistor	1K OHM
	R136	BIRC1020085M000	Resistor	1K OHM
	R138	BIRC1020085M000	Resistor	1K OHM
	R907	BIRC1020085M000	Resistor	1K OHM
	R917	BIRC1020085M000	Resistor	1K OHM
	R139	BIRC1020085M000	Resistor	1K OHM
	R239	BIRC1020085M000	Resistor	1K OHM
	R314	BIRC4740085M000	Resistor	470K OHM
	R120	BIRC3020045M000	Resistor	3K OHM
	R220	BIRC3020045M000	Resistor	3K OHM
	R909	BIRC5630085M000	Resistor	56K OHM
	R386	BIRC1000085M000	Resistor	10 OHM
	R387	BIRC1500085M000	Resistor	15 OHM
	R125	BIRM0022N35P015	Resistor	0.22-3W
	R126	BIRM0022N35P015	Resistor	0.22-3W
	R225	BIRM0022N35P015	Resistor	0.22-3W
	R226	BIRM0022N35P015	Resistor	0.22-3W
	R118	BIRC4720085M000	Resistor	4.7K OHM
	R218	BIRC4720085M000	Resistor	4.7K OHM
	R910	BIRC4720085M000	Resistor	4.7K OHM
	R901	BIRC4720085M000	Resistor	4.7K OHM
	R905	BIRC1010085M000	Resistor	100 OHM
	R904	BIRC1010085M000	Resistor	100 OHM
	R392	BIRM1520N25N000	Metal Resistor	1.5K OHM
	R396	BIRM1520N25N000	Metal Resistor	1.5K OHM
	R132	BIRM1020N25N000	Metal Resistor	1.5K OHM
	R232	BIRM1020N25N000	Metal Resistor	1.5K OHM
	C390	BICE227063MP015	Elect Cap.	220UF/6.3V
	C353	BICE476160MP015	Elect Cap.	47UF/16V
	C912	BICE476630MP015	Elect Cap.	47UF/63V
	C120	BICH471500JM013	Ceramic Cap	470PF 50V
	C227	BICH471500JM013	Ceramic Cap	470PF 50V

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⚠	Item	Parts number	Parts name	Remarks
	R395	BIRC3330085M000	Resistor	33K OHM
	C352	BICE105500MP015	Elect Cap.	1UF/50V
	C919	BICE477160MP015	Elect Cap.	470UF/16V
	R911	BIRC8210085M000	Resistor	820 OHM
	R912	BIRC1220085M000	Resistor	1.2K OHM
	R1	BIRC1540085M000	Resistor	150K OHM
	R240	BIRC2230085M000	Resistor	22K OHM
	R241	BIRC2230085M000	Resistor	22K OHM
	C229	BICE107100MP015	Elect. Cap	100UF/10V
	C122	BICE107100MP015	Elect. Cap	100UF/10V
	C922	BICE107250MP015	Elect. Cap	100UF/25V
	C393	BICE107630MP015	Elect. Cap	100UF/63V
	C391	BICE107630MP015	Elect. Cap	100UF/63V
	R903	BIRC3320085M000	Resistor	3.3K OHM
	C911	BICE47825M61	Elect. Cap	4700UF/25
	R393	BIRF1010045N000	Fusible Resistor	100 OHM
	R394	BIRF1010045N000	Fusible Resistor	100 OHM
	C354	BICE226160MP015	Elect. Cap	22UF /16V
	C301	BICH121500KM019	Axial Cap	120P 50V
	C398	BICH153500KM019	Axial Cap	0.015UF/50V
	C399	BICH153500KM019	Axial Cap	0.015UF/50V
	R919	BIRC6840085M000	Resistor	680K OHM
	R3	BIRC3920085M000	Resistor	3.9K OHM
	C125	BICM224101KP015	Mylar cap	0.22UF/100V
	C225	BICM224101KP015	Mylar cap	0.22UF/100V
	R150	BIRF0470045N000	Fusible Resistor	4.7 OHM
	R25O	BIRF0470045N000	Fusible Resistor	4.7 OHM
	R313	BIRC4710085M000	Resistor	470 OHM
	R902	BIRF3300045M000	Fusible Resistor	33 OHM
	C907	BICH104500KM019	Axial Cap	0.1UF/50V