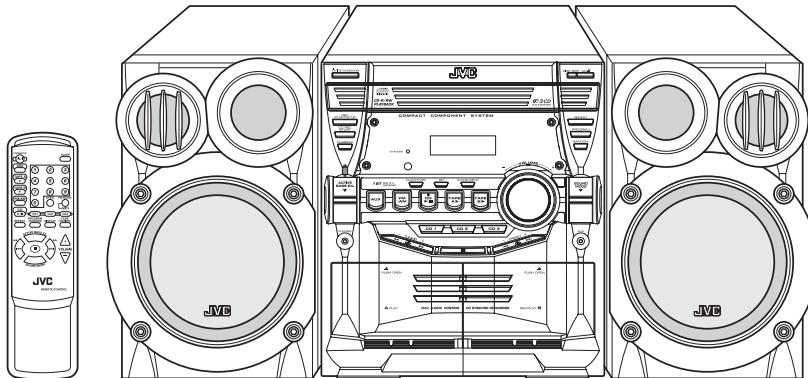


JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

MX-KB2, MX-KB1



COMPACT
disc
DIGITAL AUDIO

Area suffix

UW ----- Brazil, Mexico, Peru

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SPECIFICATION

Amplifier	Output Power	30 W per channel, min. RMS, driven into 6 Ω at 1kHz, with no more than 10% total harmonic distortion (IEC 268-3)
	Input Sensitivity/Impedance (1 kHz)	AUX IN:500 mV/51 kΩ
	Speaker terminals	6 - 16 Ω
	Phones	32 Ω - 1 kΩ
Cassette Deck Section	Frequency Response	20 mW/ch output into 32 Ω
	Type I (NORMAL)	63 Hz - 12 500 Hz
	Wow And Flutter	0.15 % (WRMS)
CD Player	CD Capacity	3 CDs
	Dynamic Range	85 dB
	Signal-To-Noise Ratio	85 dB
	Wow And Flutter	Unmeasurable
Tuner	FM Tuner	87.5 MHz - 108.0 MHz
	AM Tuner	530 kHz - 1710 kHz (at AM10 kHz channel space) 531 kHz - 1710 kHz (at AM9 kHz channel space)
Unit	Dimensions	276 mm × 315 mm × 456 mm (W/H/D)
	Mass	Approx. 8 kg
Speaker Specifications SP-MXKB2/SP-MXKB1 (each unit)	Type	2-way bass-reflex type
	Speaker Unit	Woofers : 13 cm cone × 1
		Tweeters : 5cm cone × 1
	Power Handling Capacity	30 W
	Impedance	6 Ω
	Frequency Range	65 Hz - 20,000 Hz
	Sound pressure level	86 dB/W·m
Power Specifications	Dimensions	208 mm × 323 mm × 264 mm (W/H/D)
	Power Requirements	AC 110/127/220/230-240V , adjustable with voltage selector, 50/60 Hz
	Power Consumption	83 W (power on mode) 13 W (in Standby mode)

Design and specifications are subject to change without notice.

SECTION 1

PRECAUTION

1.1 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 manufacturers 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 (Δ) 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 reassembling.

(5) Leakage shock hazard testing

After reassembling 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.).

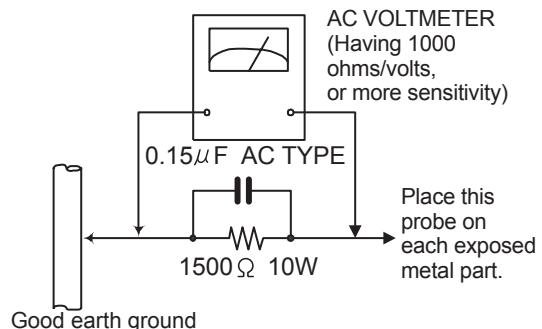
• Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 Ω per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F 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 measure 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.).



1.2 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.

1.3 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 performing repair of this system.

1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (■), diode (■) and ICP (●) or identified by the " Δ " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer. (This regulation dose not Except the J and C version)

1.5 Preventing 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.

1.5.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as laser products.

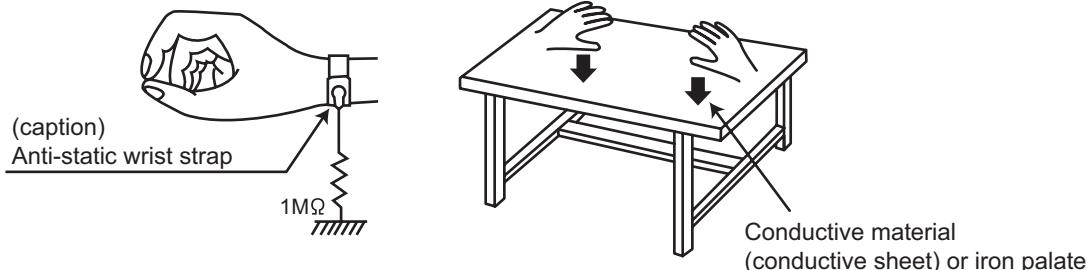
Be careful to use proper grounding in the area where repairs are being performed.

(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) Ground yourself

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



(3) Handling the optical pickup

- 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.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

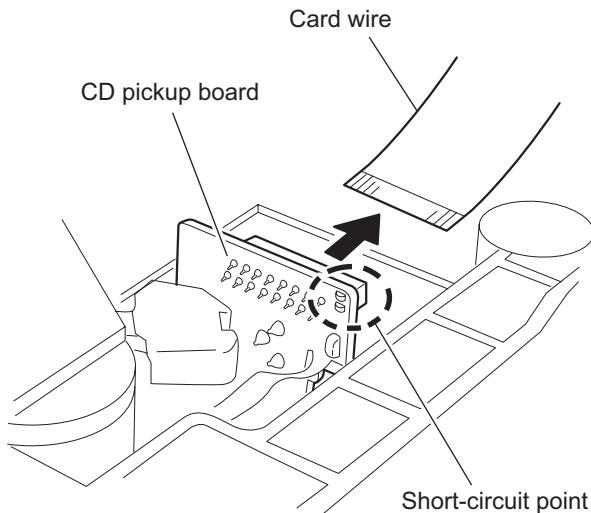
1.6 Handling the traverse unit (optical pickup)

- Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
- 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 traverse unit. Be careful not to take too long a time when attaching it to the connector.
- Handle the flexible cable carefully as it may break when subjected to strong force.
- It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.7 Attention when traverse unit is decomposed

*Please refer to "Disassembly method" in the text for the pickup unit.

- Apply solder to the short land sections before the flexible wire is disconnected from the connector on the servo board. (If the flexible wire is disconnected without applying solder, the pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land sections after connecting the flexible wire.



1.8 Important for laser products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and interlock 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 CD,MD and DVD 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 here in 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.

ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling.

VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling. (d)	VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)	VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömälle lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)
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CLASS 1
LASER PRODUCT

CAUTION : Visible and invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARO : Avattaessa ja suojalukitus ohitettuna tai viallisena olet alttiina näkyvälle ja näkymättömille lasersäteilylle. Vältä säteen kohdistumista suoraan itseesi. (f)
VARNING : Synlig och osynlig laserstråling när den öppnas och spärren är urkopplad. Betrakta ej strålen. (s)	ADVARSEL : Synlig og usynlig laserstråling når maskinen er åben eller interlocken fejler. Undgå direkte eksponering til stråling. (d)

SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

3.1 Main body

3.1.1 Removing the top cover / side cover (R) and (L) (See Fig.1 to 6)

- (1) From the back of the body, remove the two screws **A** attaching the top cover.
- (2) From both sides of the body, remove the four screws **B** attaching the top cover and the side cover (R) and (L). Move the top cover in the direction of the arrow to release from the front panel at the two joints **a**.
- (3) Remove the six screws **D** on the back of the body and the two screws **E** on the side of the body. Move the side cover (R) and (L) backward to release the four joints **b** on the bottom of the side covers.

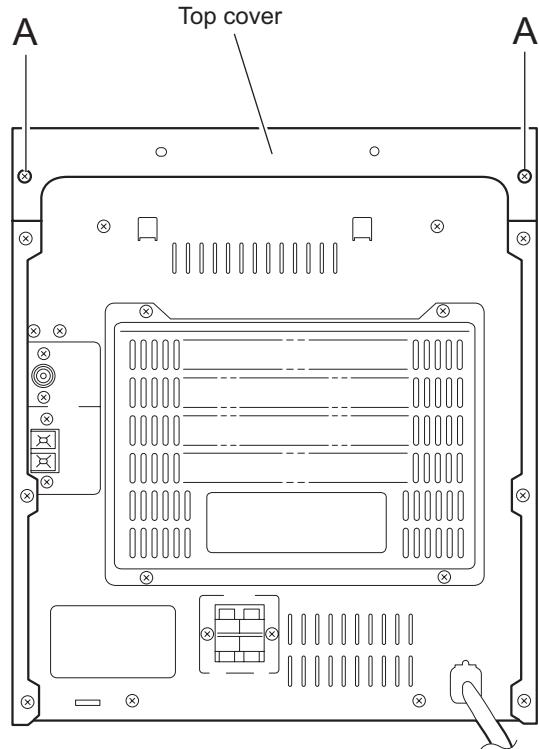


Fig.1

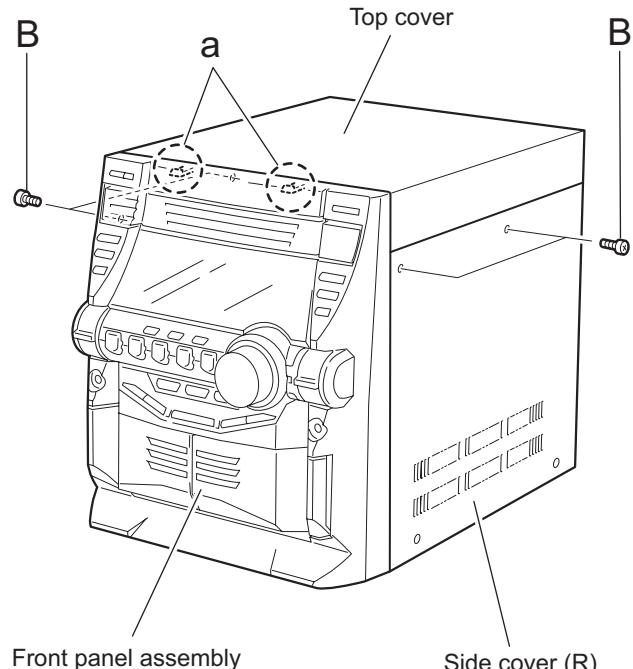
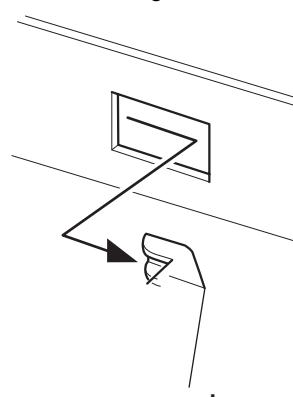
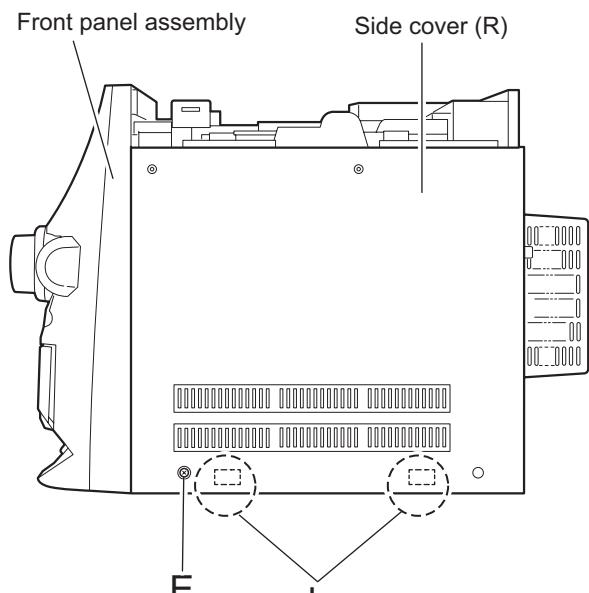
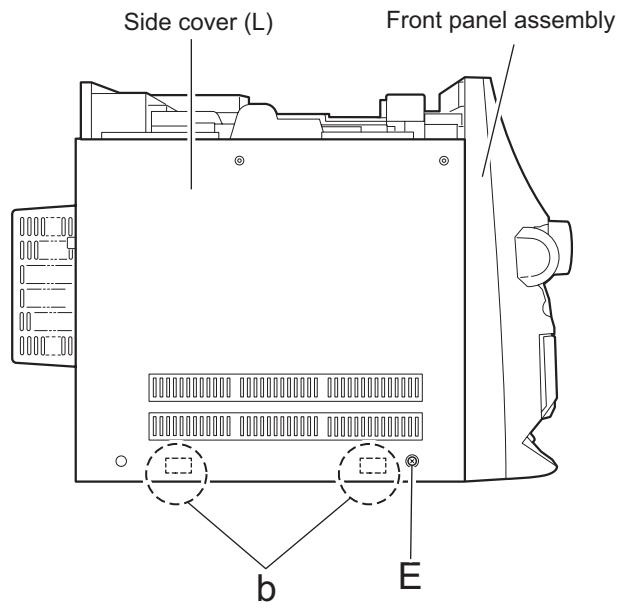
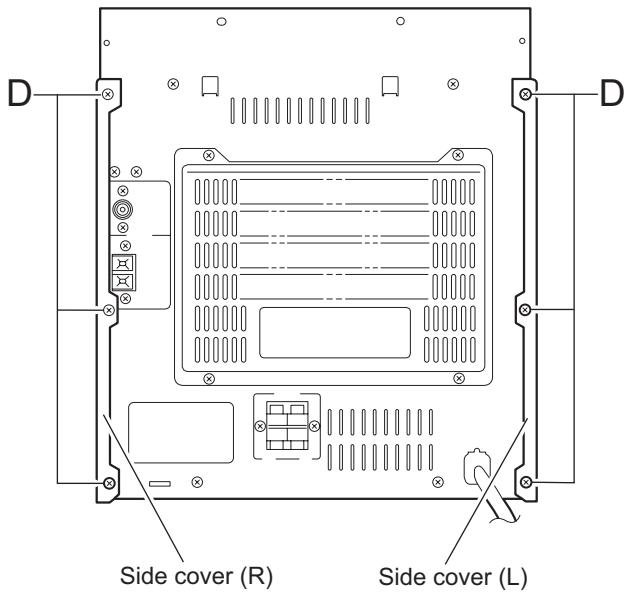


Fig.2



3.1.2 Removing the CD fitting (See Fig.7 to 9)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L).

Caution:

For preventing from damage, make sure to remove the CD fitting before detaching the CD changer mechanism unit.

- Push STANDBY / ON key to turn power on.
- Push CD TRAY EJECT key.
- Move the CD fitting in the direction of the arrow to release from the CD tray at two joints **d**.
- Push STANDBY / ON key to close the tray.

3.1.3 Removing the CD fitting (See Fig.8 to 10)

< How to eject the CD tray without turning power on >

- Prior to performing the following procedure, remove the top cover / side cover(R) and (L).
- Turn over the CD changer mechanism unit and turn the loading pulley gear at **e** in the inner part of the notch of the main board to move the CD tray forward.
- Move the CD fitting in the direction of the arrow to release from the CD tray at two joint **d**.
- Manually push and close the CD tray.

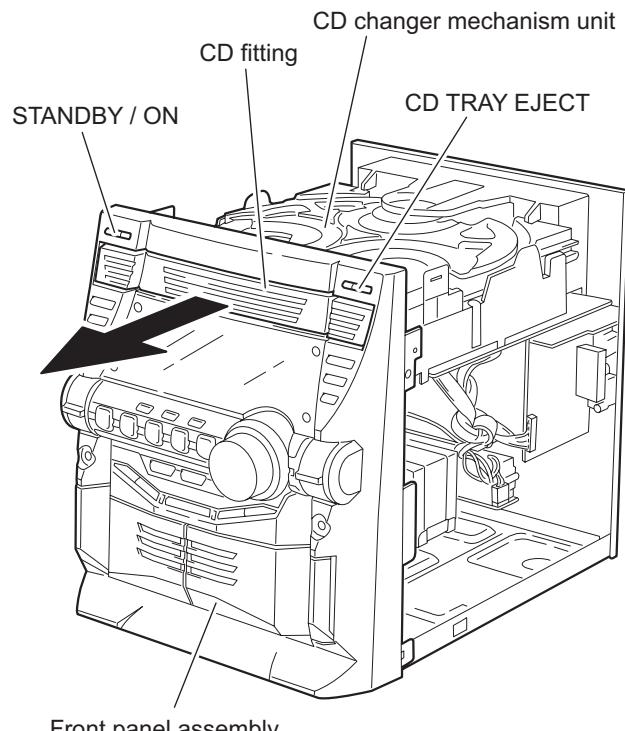


Fig.7

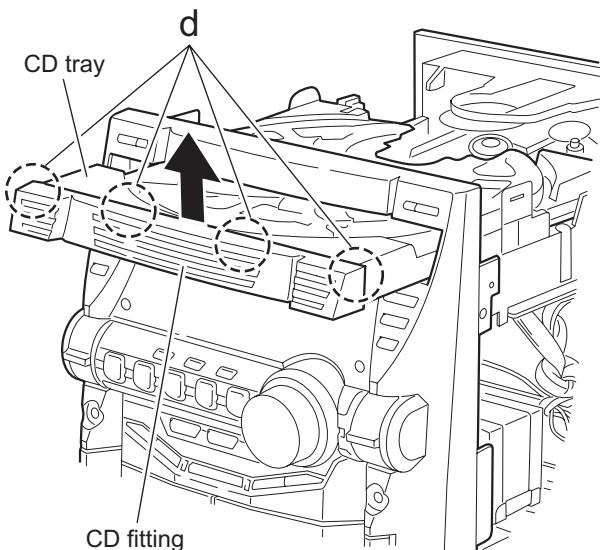


Fig.8

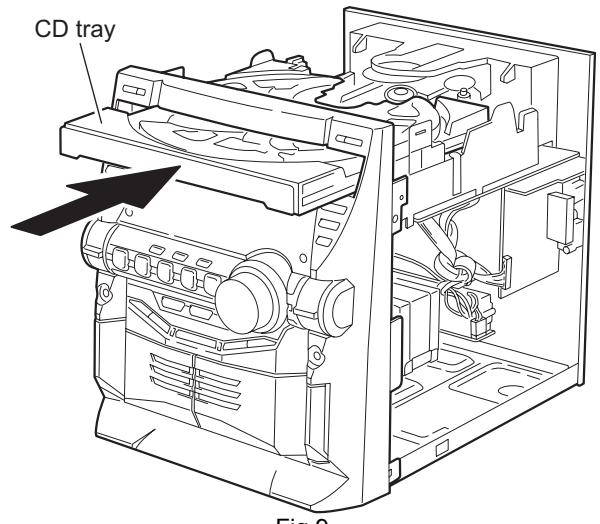


Fig.9

CD changer mechanism

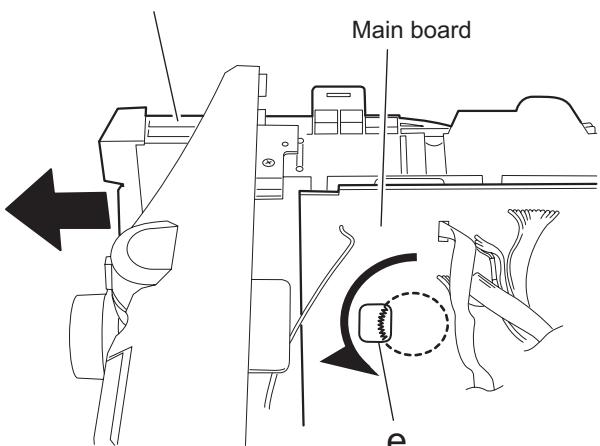


Fig.10

3.1.4 Removing the CD changer mechanism unit

(See Fig.11 to 16)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L), and the CD fitting.
- (1) Disconnect the wire from connector [CN601](#) on the turner board on the right side of the body.
- (2) Disconnect the wire from connector [CN504](#) on the AUX board on the inner side of the front panel.
- (3) Disconnect the wire from connector [CN801](#), [CN802](#) and [CN803](#) on the power board.
- (4) Disconnect the wire from connector [CN100](#), [CN101](#) and [CN207](#) on the main board at the bottom of the CD changer mechanism unit, and disconnect the card wire from connector [CN103](#). If necessary, release the band attaching the wires.
- (5) From the side of the body, remove the two screws **F** attaching the CD changer mechanism unit.
- (6) From the back of the body, remove the two screws **G** attaching the CD changer mechanism unit.
- (7) Move the CD changer mechanism unit in the direction of the arrow while pulling the rear panel backward, and remove the CD changer mechanism unit.

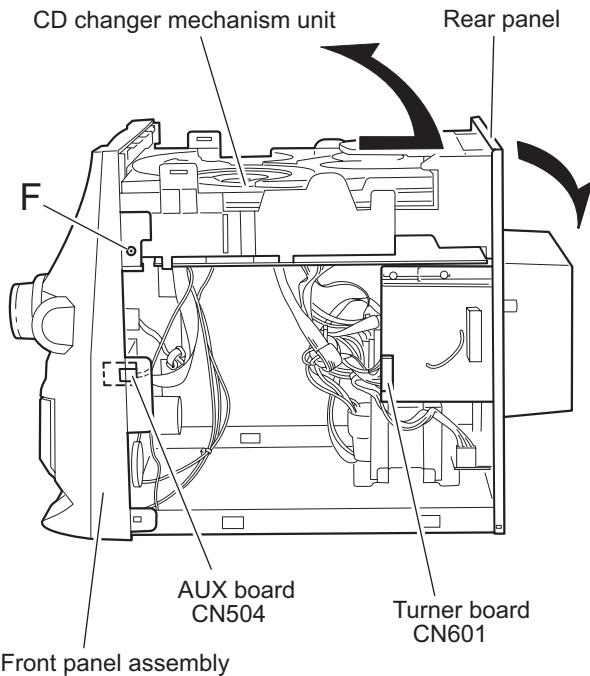


Fig.11

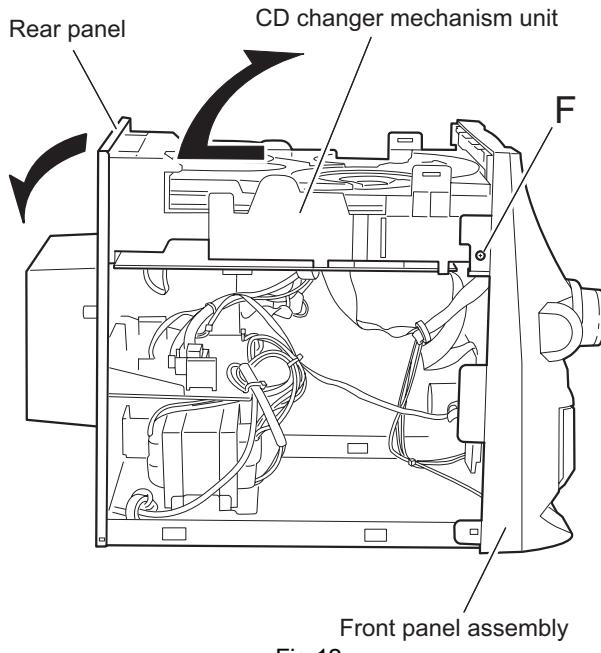


Fig.12

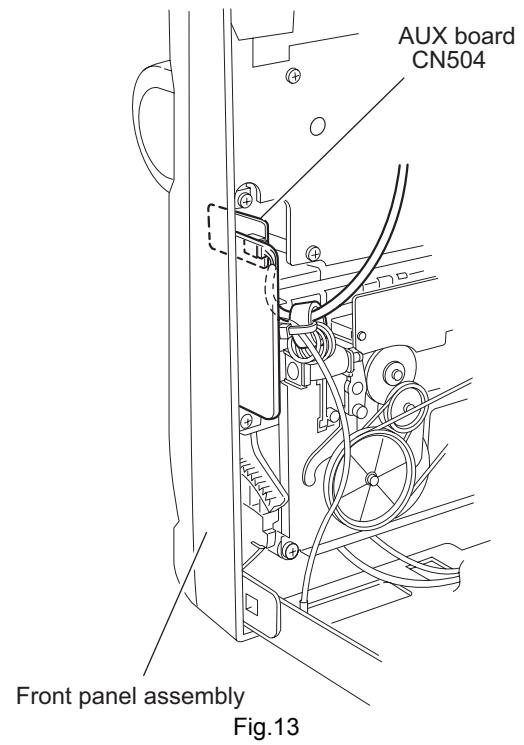


Fig.13

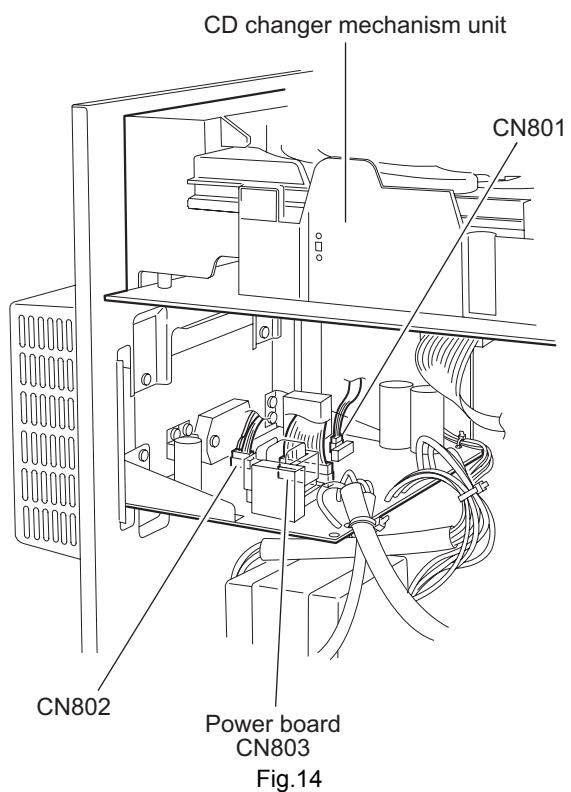


Fig.14

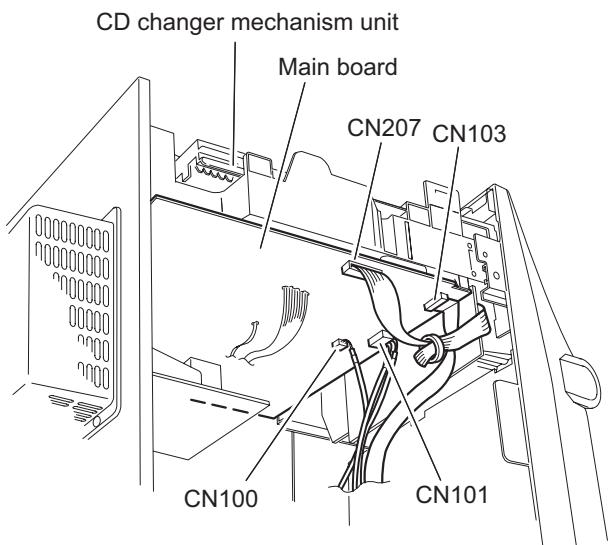


Fig.15

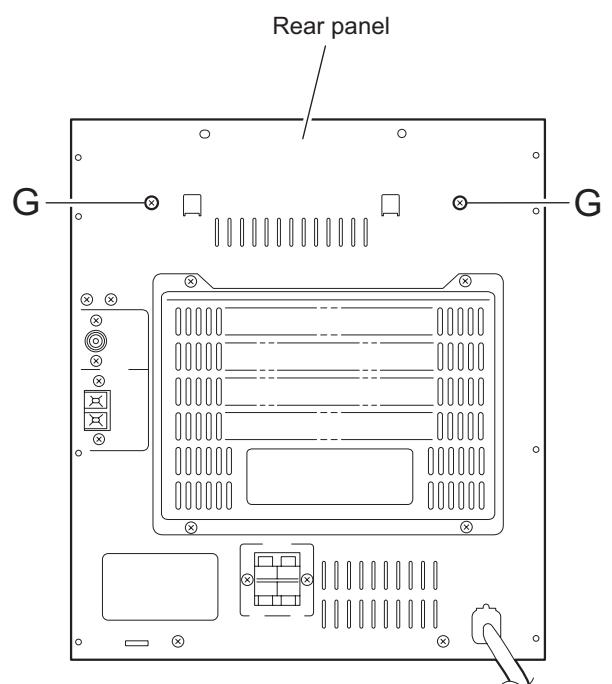


Fig.16

3.1.5 Removing the tuner board

(See Fig.17, 18)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L).
- (1) Disconnect the wire from connector **CN601** on the tuner board.
- (2) From the back of the body, remove the two screws **H**, the two screws **J** and the two screws **K** attaching the tuner board respectively.
- (3) Remove the two screws **L** attaching the tuner board holder.

Caution:

You can remove the tuner board without removing the CD changer mechanism unit and the rear panel.

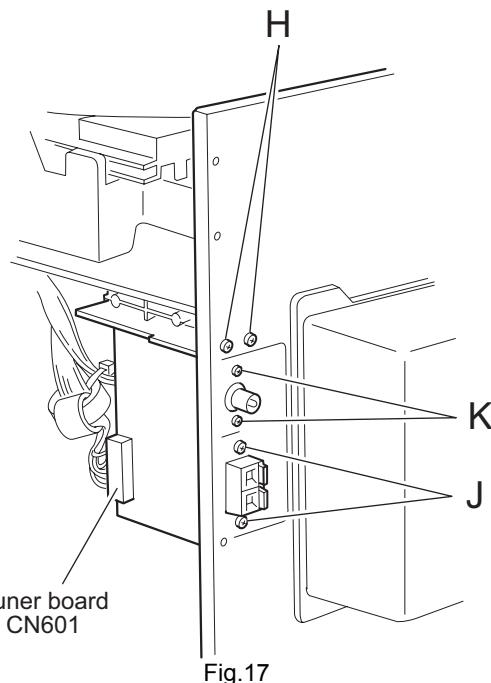


Fig.17

Tuner board holder

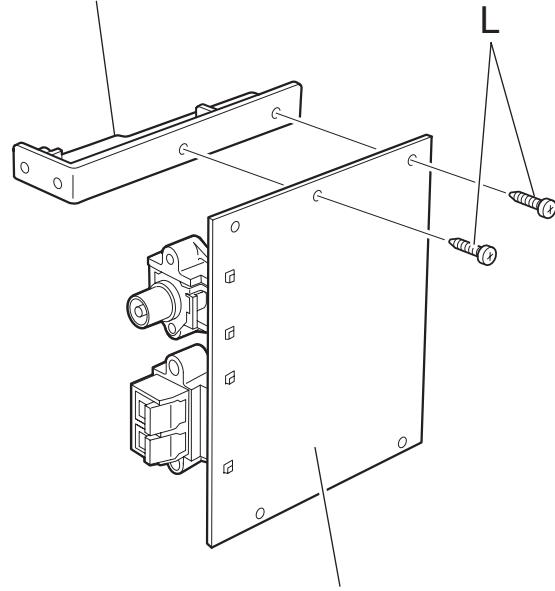


Fig.18

3.1.6 Removing the speaker terminal board

(See Fig.19, 20)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L).
- (1) Disconnect the wire from connector [CN901](#) on the speaker terminal board.
- (2) From the back of the body, remove the two screws **M** attaching the speaker terminal board.

Reference:

You can remove the speaker terminal board without detaching the CD changer mechanism unit and the rear panel.

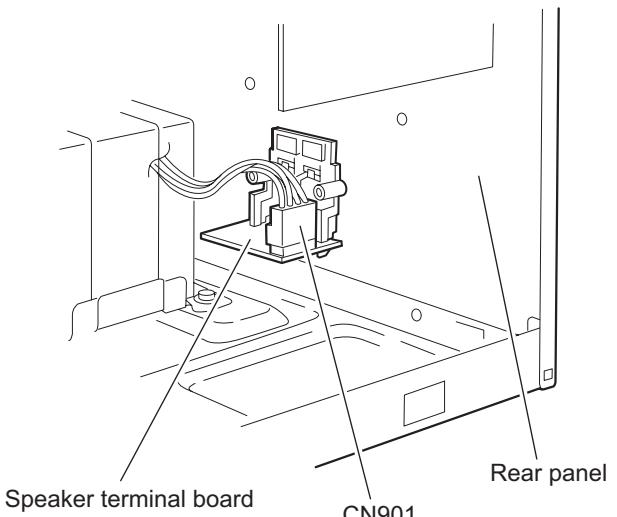


Fig.19

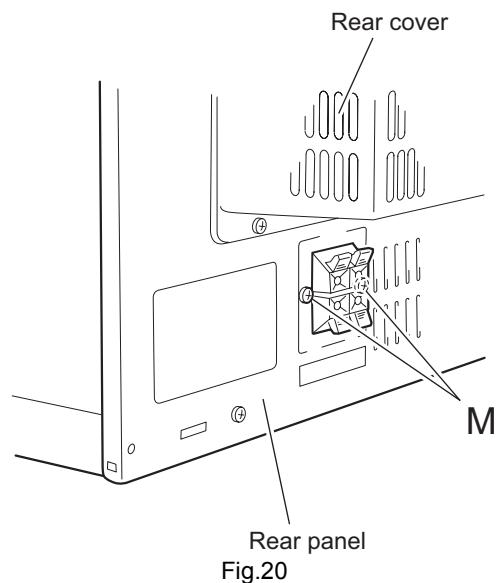


Fig.20

3.1.7 Removing the front panel assembly

(See Fig.21 to 24)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L), the CD fitting / CD changer mechanism unit.
- (1) Disconnect the wire from connector [CN861](#) on the power board.
- (2) Disconnect the earth wire from the base chassis on the bottom of the right side of the body.
- (3) From the bottom of the body, remove the two screws **N** attaching the front panel assembly.
- (4) Release the two joints **f** on the side of the body and the joint **g** on the bottom using a screwdriver, and remove the front panel assembly forward.

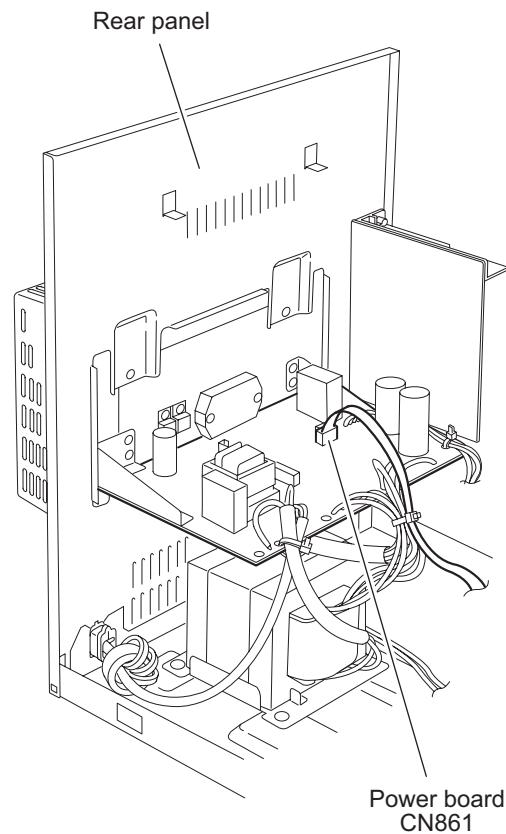


Fig.21

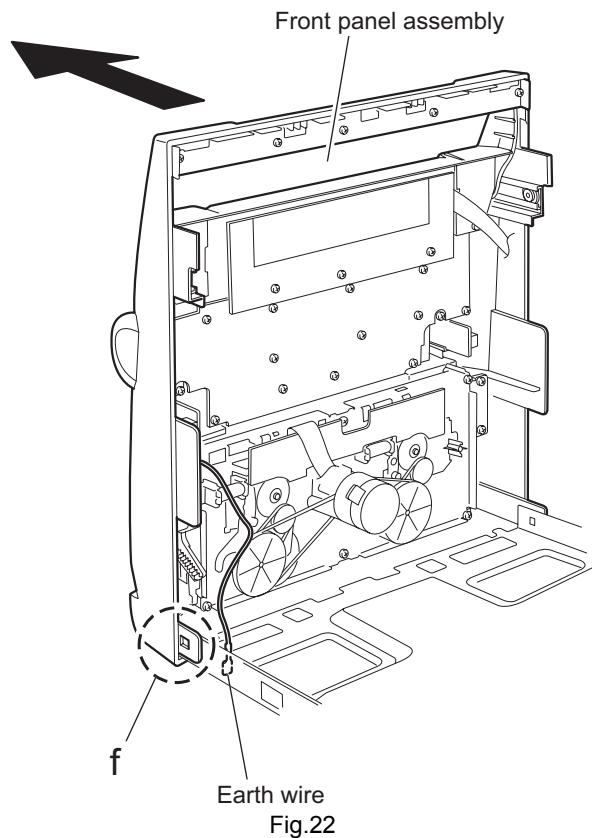


Fig.22

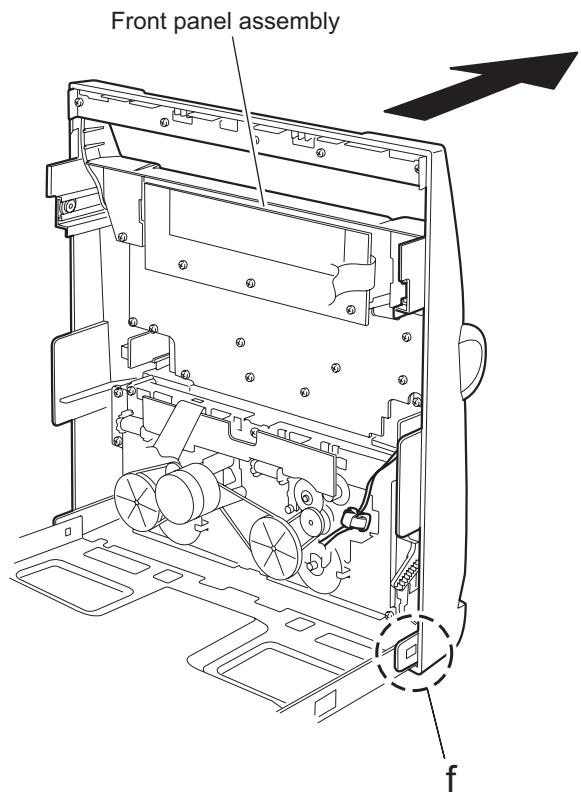


Fig.23

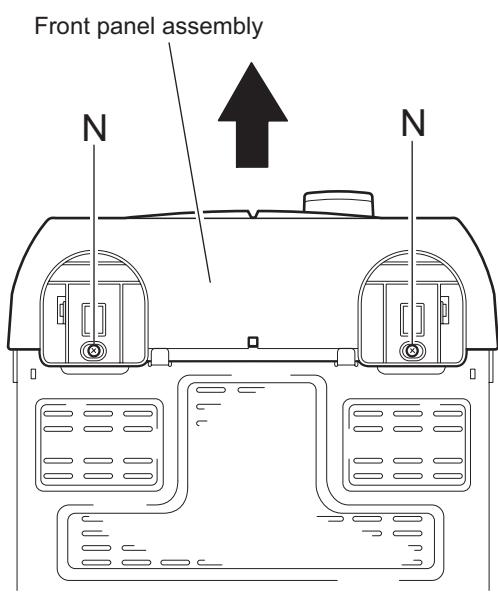
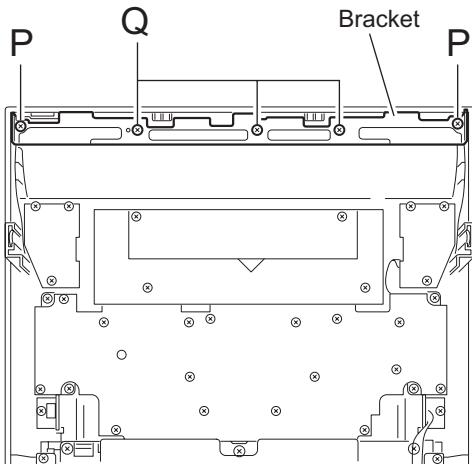


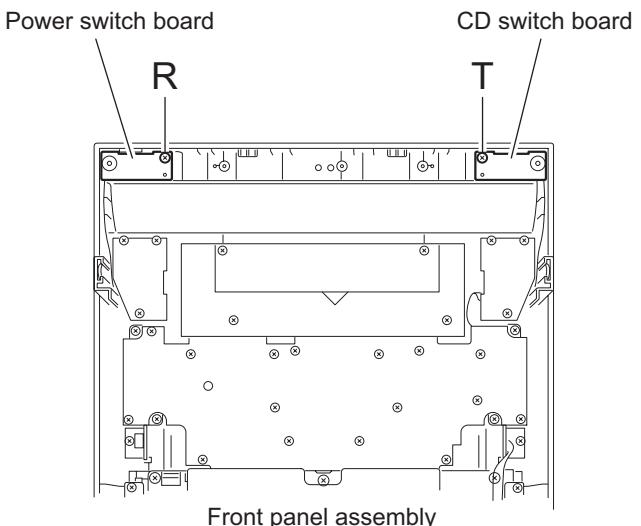
Fig.24

3.1.8 Removing the POWER switch board / CD switch board (See Fig.25, 26)

- Prior to performing the following procedure, remove the front panel assembly.
- (1) Remove the two screws **P** and the three screws **Q** attaching the bracket.
- (2) Remove the screws **R** attaching the POWER switch board.
- (3) Remove the screw **T** attaching the CD switch board.



Front panel assembly
Fig.25



Front panel assembly
Fig.26

3.1.9 Removing the REC select switch board / PROGRAM select switch board (See Fig.27)

- Prior to performing the following procedure, remove the front panel assembly.
- (1) Remove the three screws **U** attaching the REC select switch board.
- (2) Remove the three screws **Y** attaching the CD switch board.

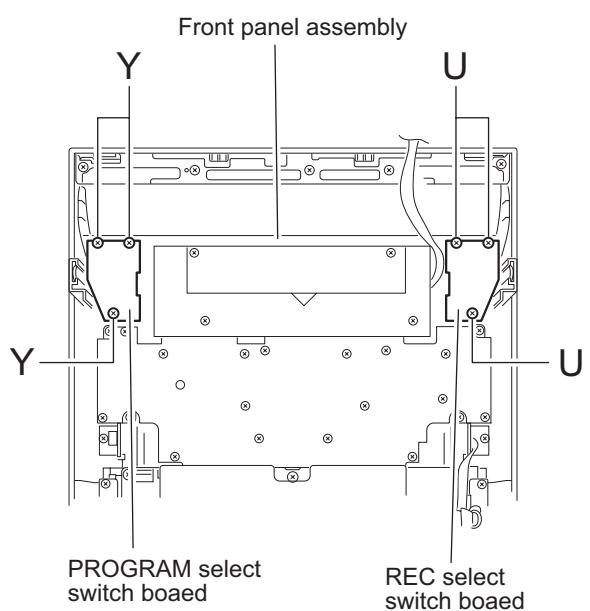


Fig.27

3.1.10 Removing the LCD board / STANDBY board

(See Fig.28, 29)

- Prior to performing the following procedure, remove the front panel assembly.
- (1) Remove the four screws **A'** attaching the LCD board and disconnect the wire from connector [CN505](#).
- (2) Remove the two screws **B'** attaching the STANDBY board.

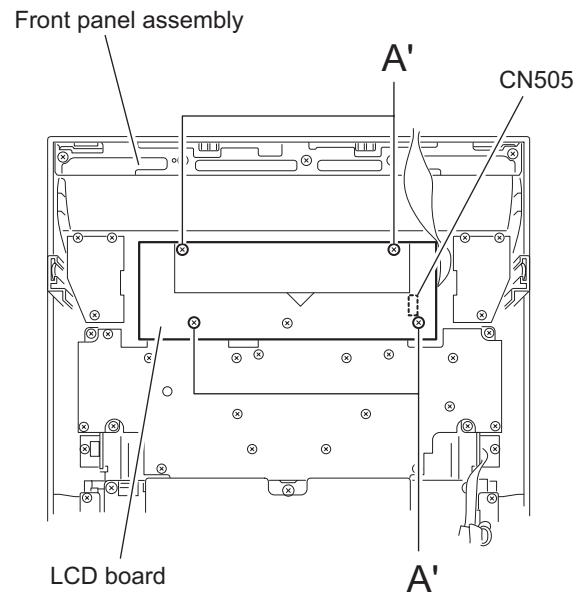


Fig.28

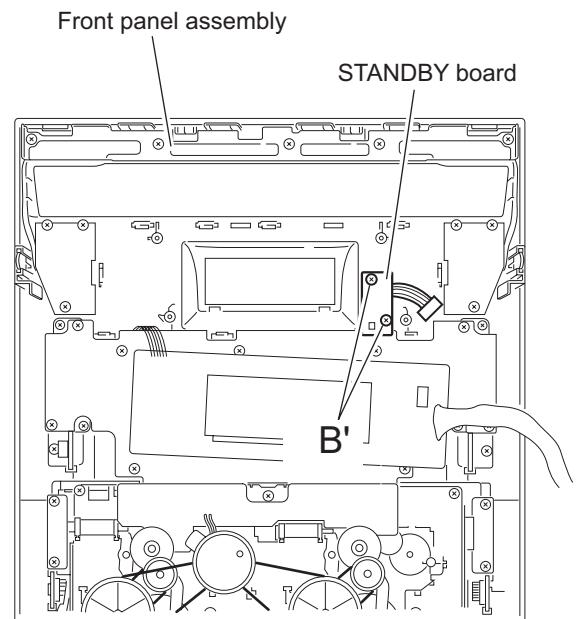


Fig.29

3.1.11 Removing the system board / headphone board / AUX board

(See Fig.30 to 34)

- Prior to performing the following procedure, remove the front panel assembly.
- (1) Pull out the volume knob on the front side of the front panel assembly. Release the three tabs of the knob holder and pull out the knob holder.
- (2) Remove the nut and the washer from the volume shaft.
- (3) From the back of the front panel assembly, remove the seventeen screws **D'** attaching the system board.
- (4) Remove the screw **E'** attaching the headphone board fitting plate and pull out the headphone board.
- (5) Remove the screw **F'** attaching the AUX board fitting plate and pull out the AUX board.

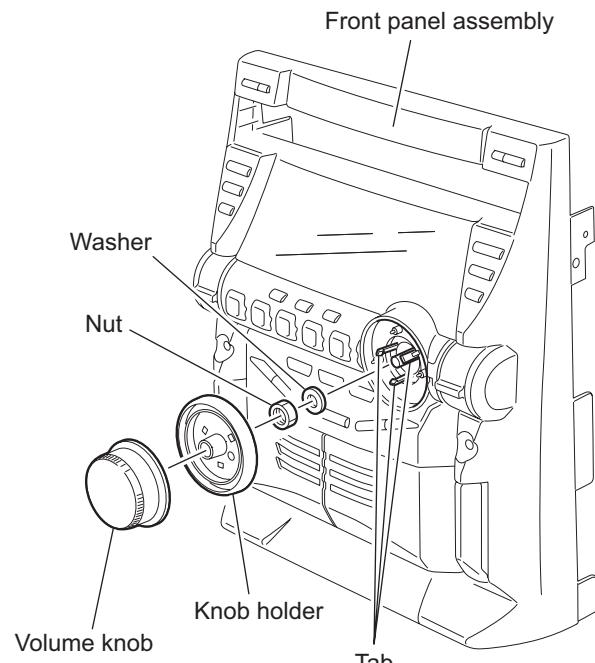


Fig.30

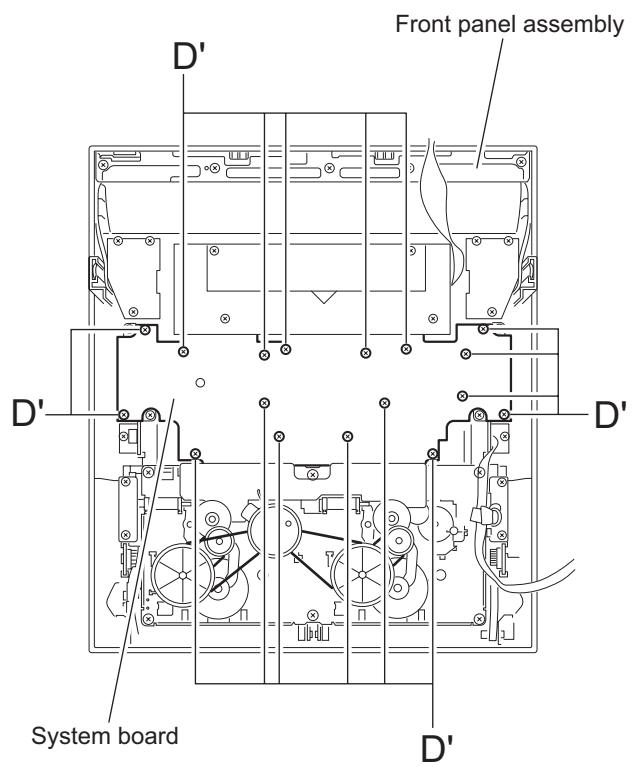


Fig.31

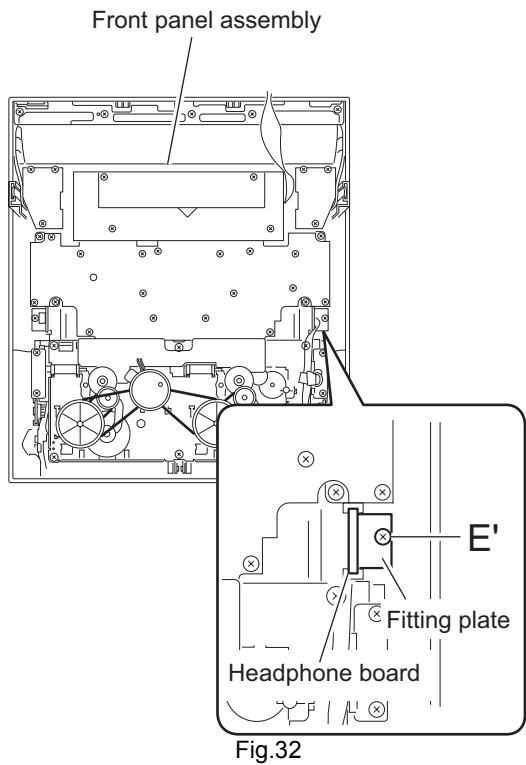


Fig.32

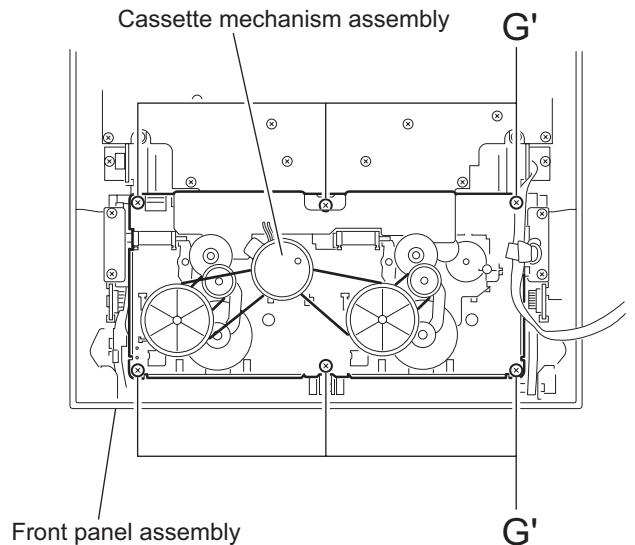


Fig.34

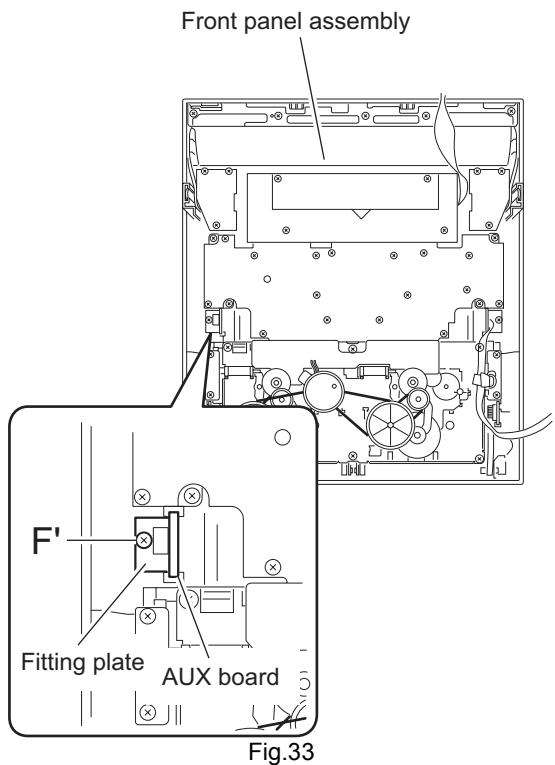


Fig.33

3.1.12 Removing the cassette mechanism assembly

(See Fig.35)

- Prior to performing the following procedure, remove the front panel assembly.
- (1) Remove the six screws **G'** attaching the cassette mechanism assembly.

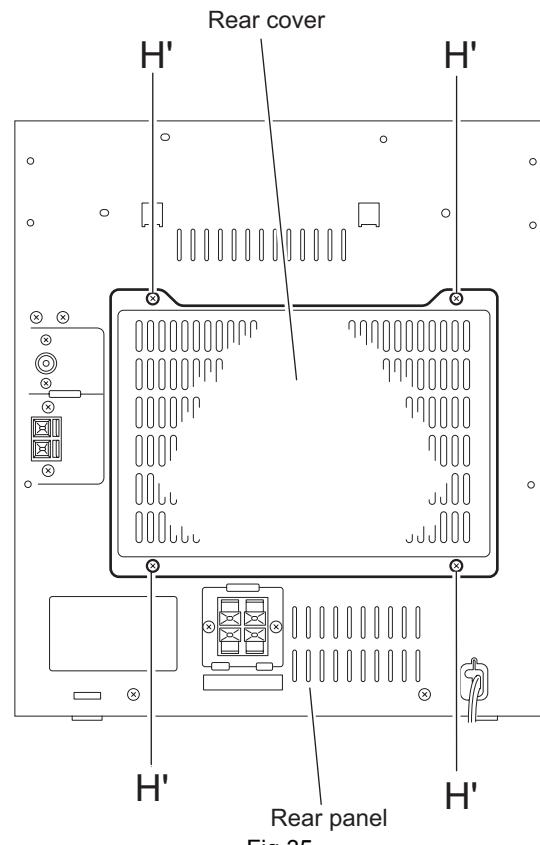


Fig.35

3.1.13 Removing the rear cover / rear panel

(See Fig.36 to 38)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L), the CD fitting / CD changer mechanism unit.
- (1) From the back of the body, remove the four screws **H'** attaching the rear cover.
- (2) From the back of the body, remove the two screws **J'** attaching the rear panel.
- (3) Release the two joints **h** on the bottom of the right and left sides of the rear panel, and remove the rear panel. The rear panel comes off with the power board and the heat sink.

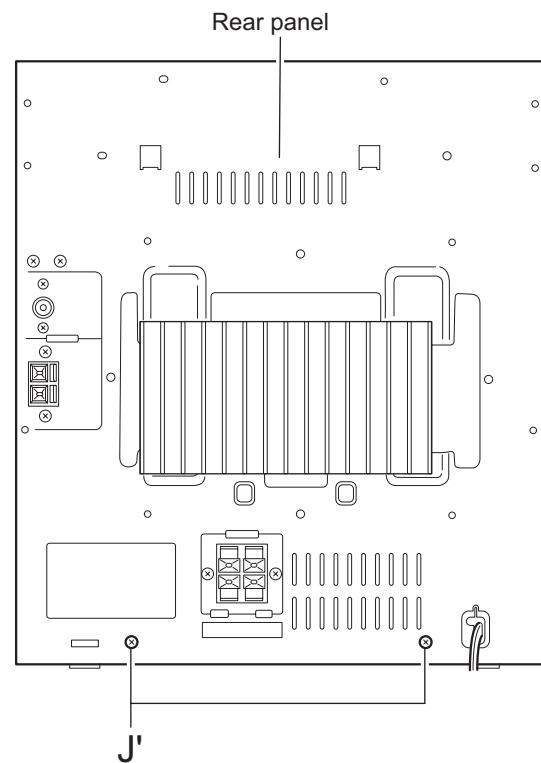


Fig.36

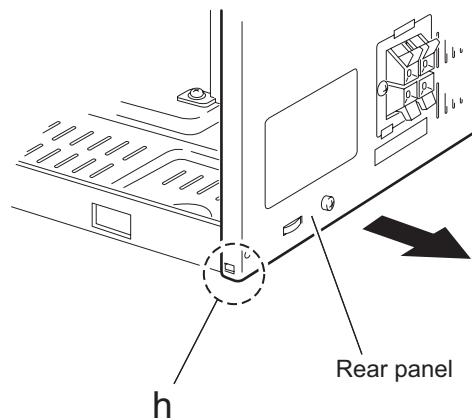


Fig.37

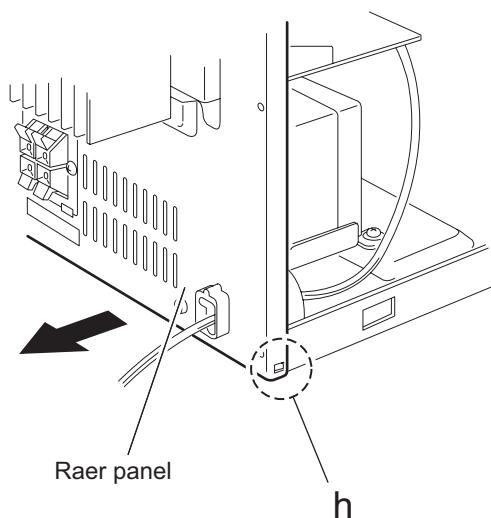


Fig.38

3.1.14 Removing the heat sink / power board

(See Fig.39 to 42)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L), the CD fitting / CD changer mechanism unit, the rear cover / rear panel.

- From the inner side of the rear panel, remove the four screws **K'** attaching the heat sink. Move the heat sink in the direction of the arrow along the notch of rear panel and remove it with the heat sink and the power board forward.
- Remove the four screws **M'** and the four screws **N'** attaching the board bracket (R) and (L).
- Remove the two screws **P'** and the two screws **Q'** attaching the power board.
- If necessary, unsolder the power cord and the wire extending from the power transformer assembly.

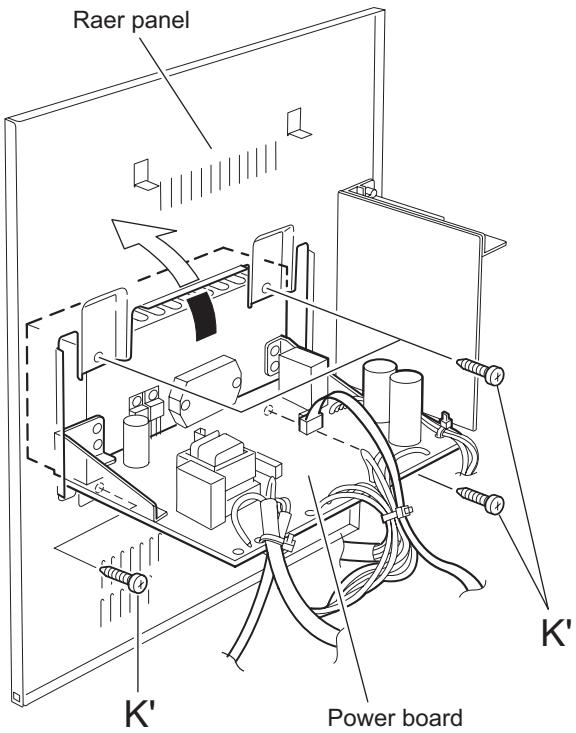


Fig.39

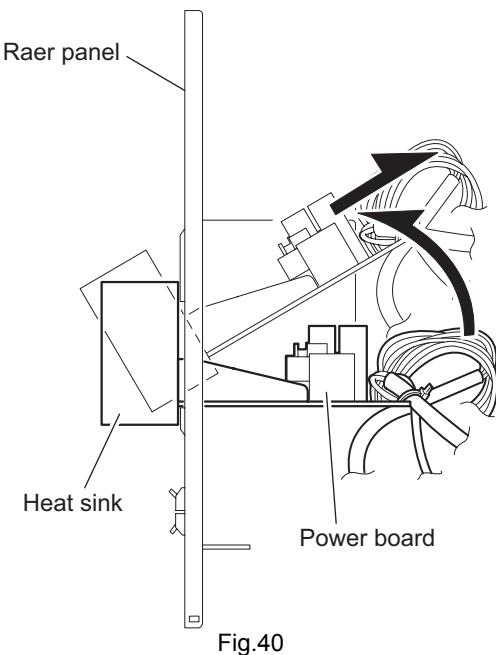


Fig.40

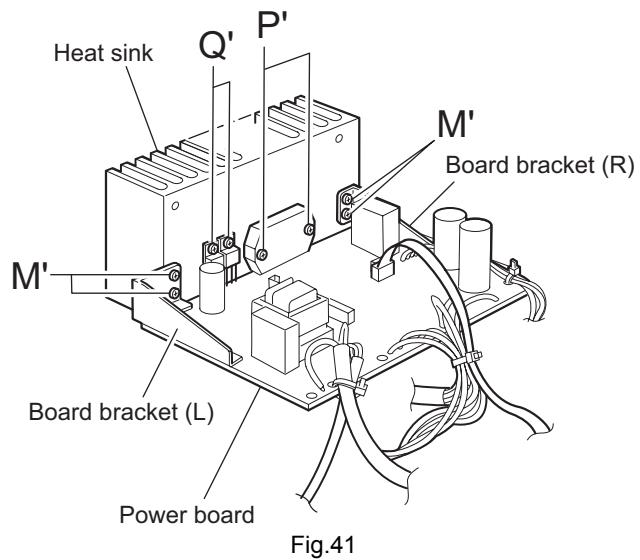


Fig.41

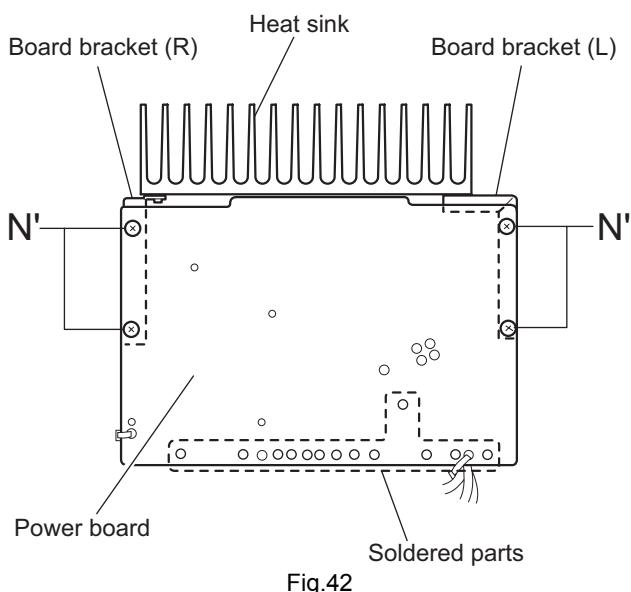


Fig.42

3.1.15 Removing the power transformer assembly

(See Fig.43)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L), the CD fitting / CD changer mechanism unit and the rear cover / rear panel.

- Move the cord stopper in the direction of the arrow and disconnect the power cord.
- Remove the four screws R' attaching the power transformer assembly.
If necessary, unsolder each wire.

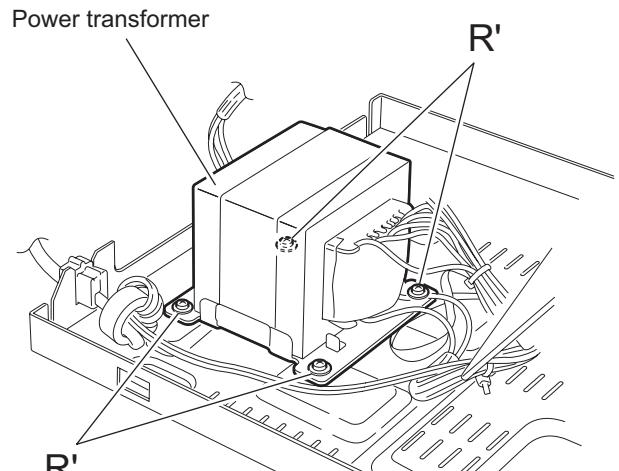


Fig.43

3.1.16 Removing the main board

(See Fig.44 to 46)

- Prior to performing the following procedure, remove the top cover / side cover (R) and (L), the CD fitting / CD changer mechanism unit.

Caution:

Before disconnecting the card wire from the CD pickup board and connector [CN401](#) on the main board, make sure to solder the short-circuit point on the CD pickup board. If you do not follow this instruction, the pick up may be damaged.

- (1) From the bottom of the CD changer mechanism unit, remove the two screws **T'** and the four screws **U'** attaching the main board.
- (2) Disconnect the wire from connector on the main board.
- (3) Move the main board in the direction of the arrow as shown in Fig.45, disconnect the wire from connector on the motor board in the inner part of the main board.
- (4) Move the main board turning in the direction of the arrow as shown in Fig.45.
- (5) Solder the short-circuit point on the CD pickup board and disconnect the wire from the CD pickup board.

Caution:

When reattaching the main board, make sure to connect the card wire to connector [CN401](#) on the main board and to the CD pickup board before unsoldering the short-circuit point.

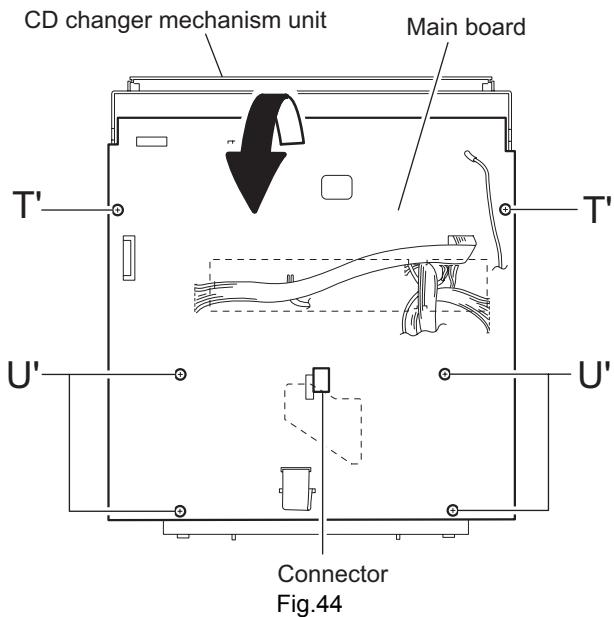


Fig.44

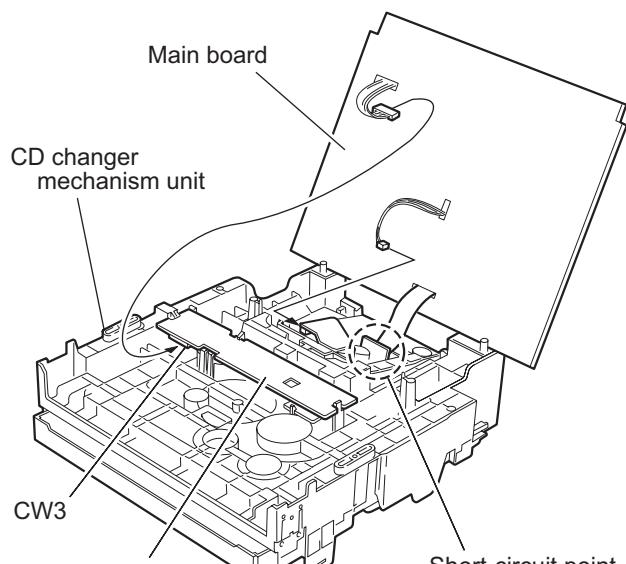


Fig.45

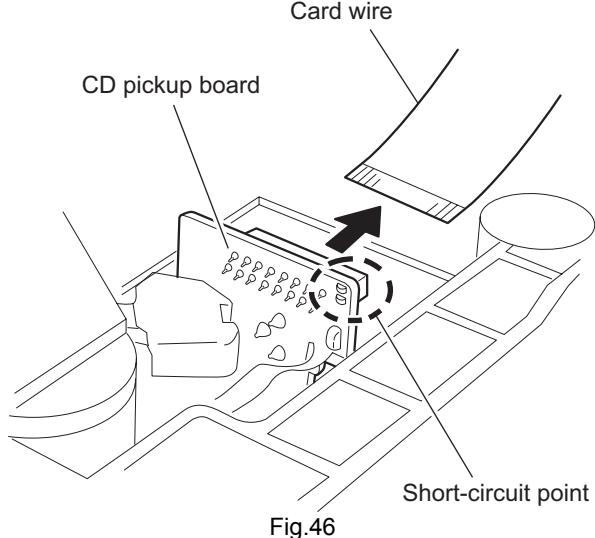


Fig.46

3.2 Speaker

3.2.1 Removing the front cabinet

(See Fig.1 to 3)

Caution:

When performing the following procedure, apply the cloth to the product for preventing it from damage.

- (1) Put the screwdriver into the two notch a at the bottom of the speaker, and remove the front panel assembly while pulling out the six bosses on the inner side of the front panel assembly forward.

Caution:

The six bosses are attached with bond. Apply the cloth to the product for protect from damage, and pull out each boss carefully.

- (2) Disconnect the two wires of the main speaker terminal from the back of the front panel assembly.
(3) Disconnect the two wires of the sub speaker terminal from the back of the front panel assembly.

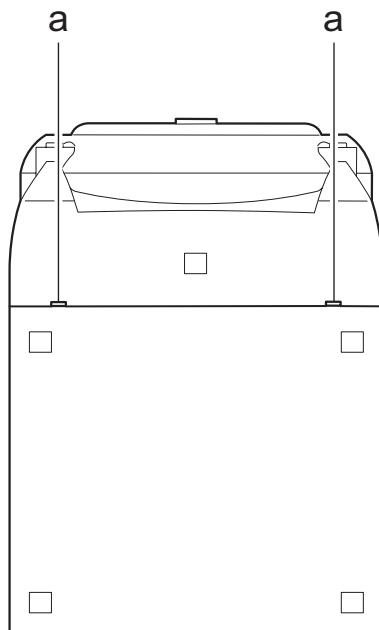


Fig.1

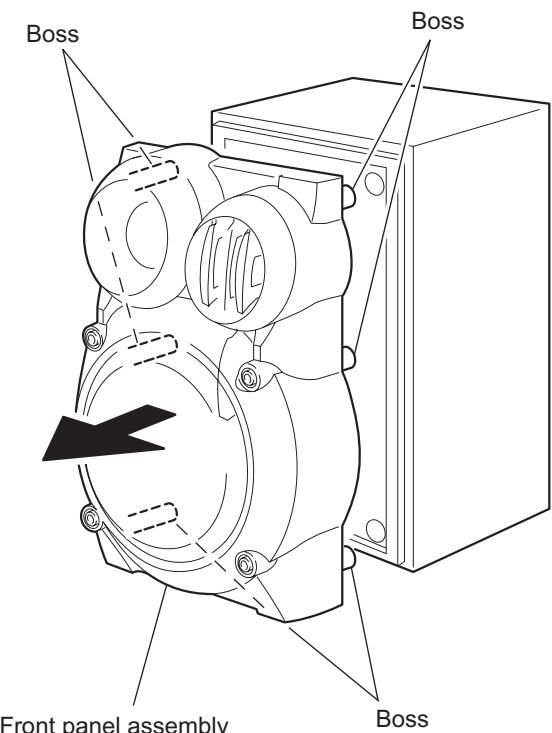
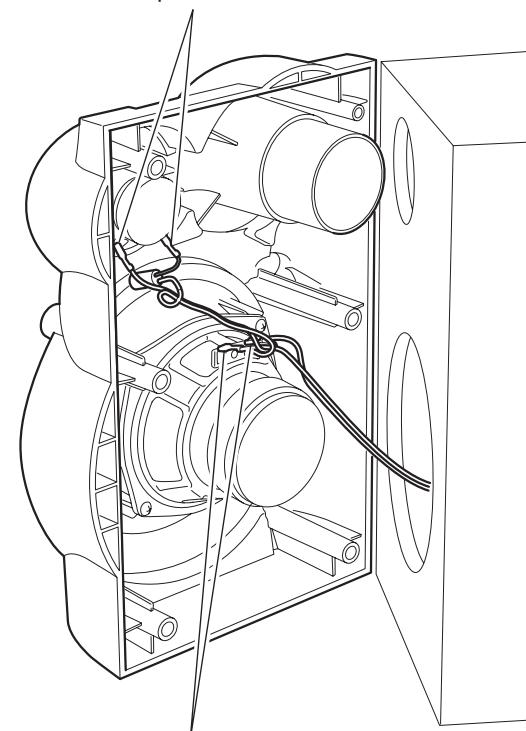


Fig.2

Sub speaker terminal



Main speaker terminal

Fig.3

3.2.2 Removing the main speaker / sub speaker

(See Fig.4)

- Prior to performing the following procedure, remove the front cabinet.
- (1) Remove the four screws **A** attaching the main speaker.
- (2) Remove the two screws **B** attaching the sub speaker.

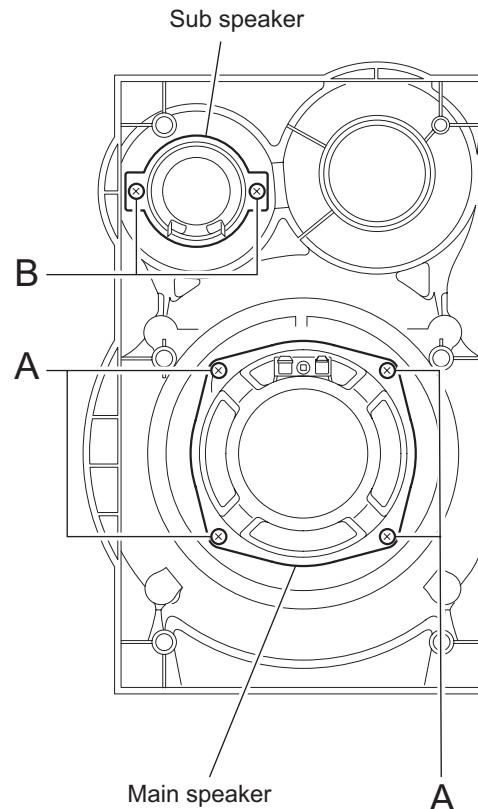


Fig.4

SECTION 4 ADJUSTMENT

4.1 Measurement Instruments Required for Adjustment

- (1) AM signal generator
- (2) FM signal generator
- (3) Intermediate frequency sweep generator
- (4) FM stereo signal generator
- (5) Low-frequency oscillator
 - (oscillation frequency 50Hz-20kHz, 0dB output with 600 Ω impedance)
- (6) Attenuator (600 Ω impedance)
- (7) Electronic voltmeter
- (8) Distortion meter
- (9) Wow & Flutter meter
- (10) Frequency counter meter
- (11) Test tape
 - VT712 : for Tape speed and wow flutter
 - VT724 : for reference level
 - VT703L : for head azimuth adjustment
 - Blank tape for recording

4.2 Measurement conditions

Radio section

FM 1 kHz, 22.5 kHz deviation
FM STEREO : 1 kHz, 67.5 kHz deviation pilot signal 7.5 kHz
AM : 1 kHz, 30 % modulation
Reference output :Headphone output (0.15V) 32 Ω
Speaker output 1W (2.5V) 6 Ω

Cassette amp section : 1 kHz

Reference output :Headphone output (0.15V) 32 Ω
Speaker output 1 W (2.5V) 6 Ω
Standard mode of function knob:Press TAPE knob of select TAPE mode

CD section

CD test disc : CTS-1000

4.3 Cassette amp section

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
Head azimuth adjustment	Test tape : VT703L Signal output terminal : SPK out (with 6 ohm load)	1. Playback the test tape VT703L. 2. Adjust the head azimuth adjusting screw so that the phase difference between the R and L channels is minimized at an output level that is within (20dB of the maximum output level. After this adjustment. Lock the head azimuth adjusting screw with screw sealant to cover more than a half of the screw head. 3. When the head azimuth is maladjusting correct it with the head azimuth adjusting screw.	Output level : Within (2 dB of Maximum output level. *Phase difference R and L channels : Minimum	Head azimuth adjusting screw (To be use only after head replacement)
Tape speed and wow/flutter check and adjustment	Test tap : VT712 Signal output terminal : SPK out (with 6 ohm load)	1. Playback the test tape VT712 by the end portion. 2. Connect a frequency counter and check that it reads between 2940 and 3090 Hz. If not, adjust the frequency with the motor semifixed resistor. 3. Check that the wow/flutter is within 0.35% (unweighted).	2940 to 3090 Hz within 0.35% (unweighted)	Tape speed Motor semifixed resistor Check only
Bias frequency chek	Test tape : B Signal output terminal : Cassette REC/Play head	Set the Tuner or CD function and with TAPE to record check to see if the frequency at the measuring point REC-IF is 85 kHz if not adjust T100 until the frequency counter indicates 85 kHz+1kHz-1kHz.	Level difference for 1 kHz signal : within (0+3dB-6dB)	
Rec anf PB frequency response adjustment	Test tape : Brank tape Signal input : CD 1 kHz -20 dBs Signal output terminal : SPK out (with 6 ohm load)	Record the reference CD 1 kHz signal and 10 kHz signal alternately repeatedly. While playing back the recorded signal of the 1 kHz signal doffer from that of the 10 kHz signal by within (0+3dB-6dB).	Level difference for 1 kHz signal : within (0+3dB-6dB)	

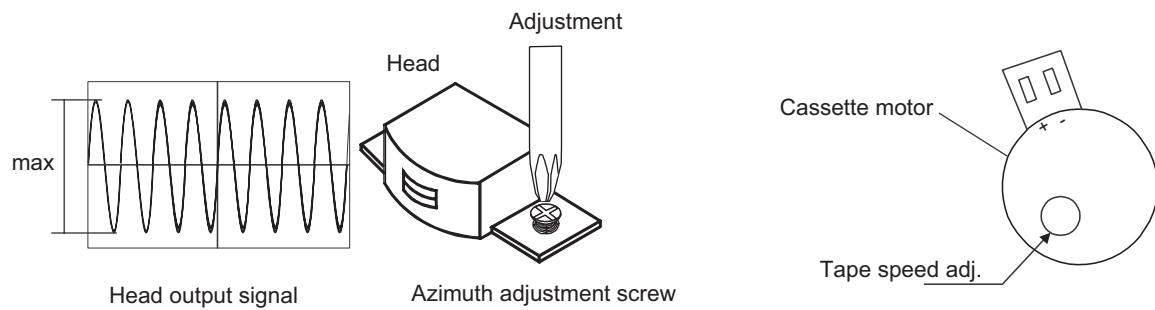
4.4 Tuner section (B/EV version)

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
AM IF adjustment	Signal input : Loop antenna Signal output : IC602 pin 16 TP7	1. Set the intermediate frequency sweep generator to AM 450 kHz. 2. Adjust IFT601 for maximum and center output		IFT601
AM tracking adjustment	Signal input : Loop antenna signal output : H.phone out (with 32 ohm load)	1. Set the TUNER at 531 kHz adjust IFT605 until the test point TP4 voltage at 1.3V+/-0.1V. 2. Set the TUNER at 1710 kHz, check the test point TP4 voltage at 7.0 to 8.0 V. 3. Set the TUNER and S/G at 600 kHz, adjust IFT606 for maximum output. 4. Set the TUNER and S/G at 1500 kHz, adjust the VC606 for maximum output. 5. Repeat the avobe step 3 and 4.		IFT605 IFT606 VC606
FM tracking	Signal input : Analog antenna FM ANT Fm GND signal output : H.phone out (with 32 ohm load)	1. Set the TUNER at 87.5MHz adjust L604 until the point TP5 voltage at 1.5V+/-0.1V. 2. Set the TUNER at 108MHz, check the point TP5 voltage at 7.2-8.0V. 3. Set the TUNER and S/G at 90.1MHz, adjust L605 for amximum output. 4. Set the TUNER and S/G at 106.1MHz, adjust the VC604 for maximum output.		L604 L605 VC604

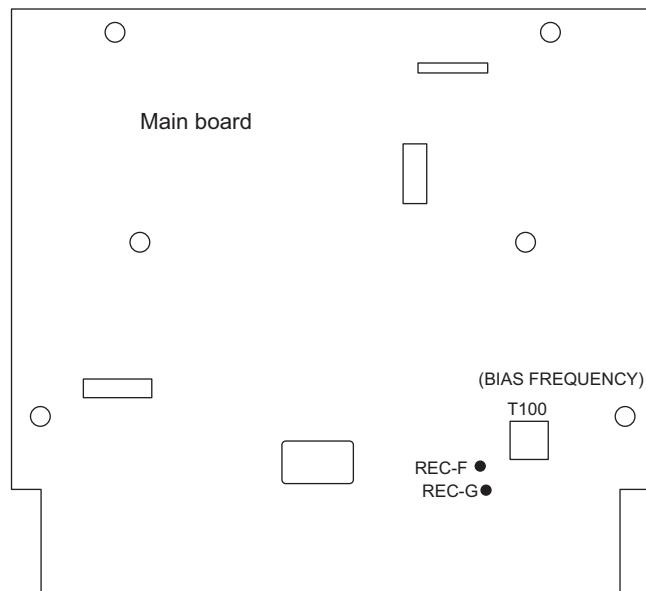
4.5 Location of adjusting parts

Cassette mechanism section

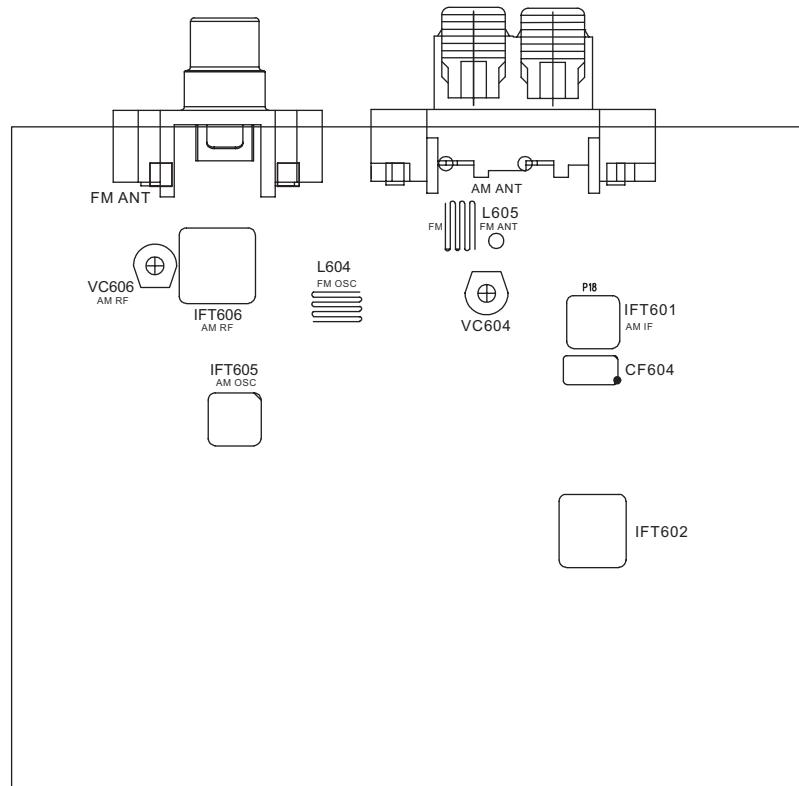
(caution) For adjusting any head, be sure to use a screw driver degaussed.



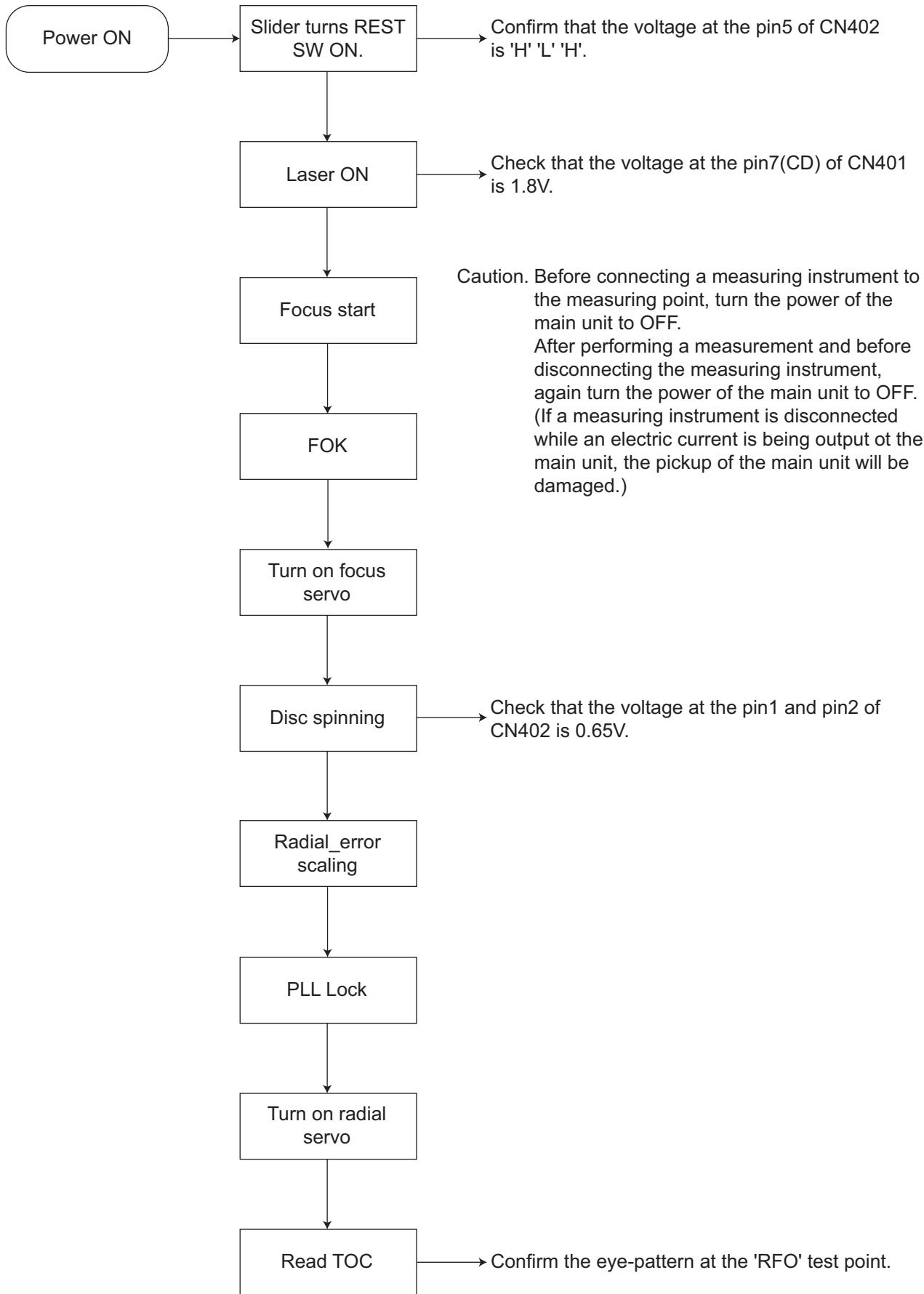
Main board



Tuner section



4.6 Flow of functional operation until TOC read



SECTION 5

TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.



JVC

Victor Company of Japan, Limited

AV & MULTIMEDIA COMPANY AUDIO/VIDEO SYSTEMS CATEGORY 10-1,1chome,Ohwatari-machi,Maebashi-city,371-8543,Japan

(No.MB284)

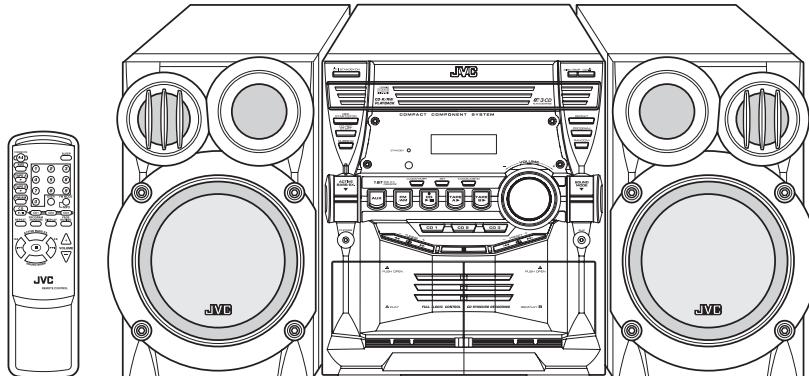
JVC

SCHEMATIC DIAGRAMS

COMPACT COMPONENT SYSTEM

MX-KB2, MX-KB15

CD-ROM No.SML200408



COMPACT
disc
DIGITAL AUDIO

Area suffix

C ----- Canada

Contents

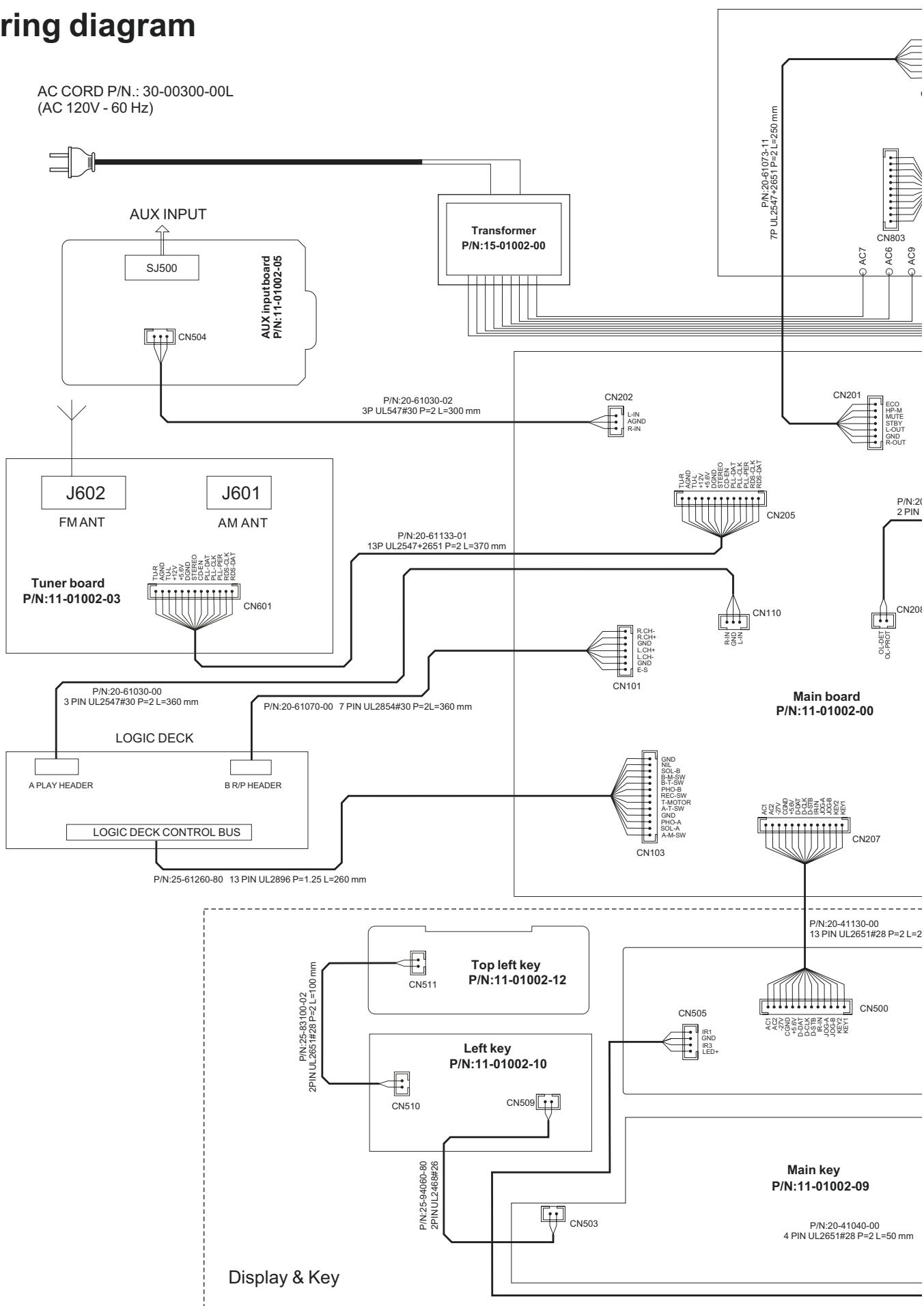
Wiring diagram	2-2
Block diagram	2-4
Standard schematic diagrams	2-6
Printed circuit boards	2-18 to 22

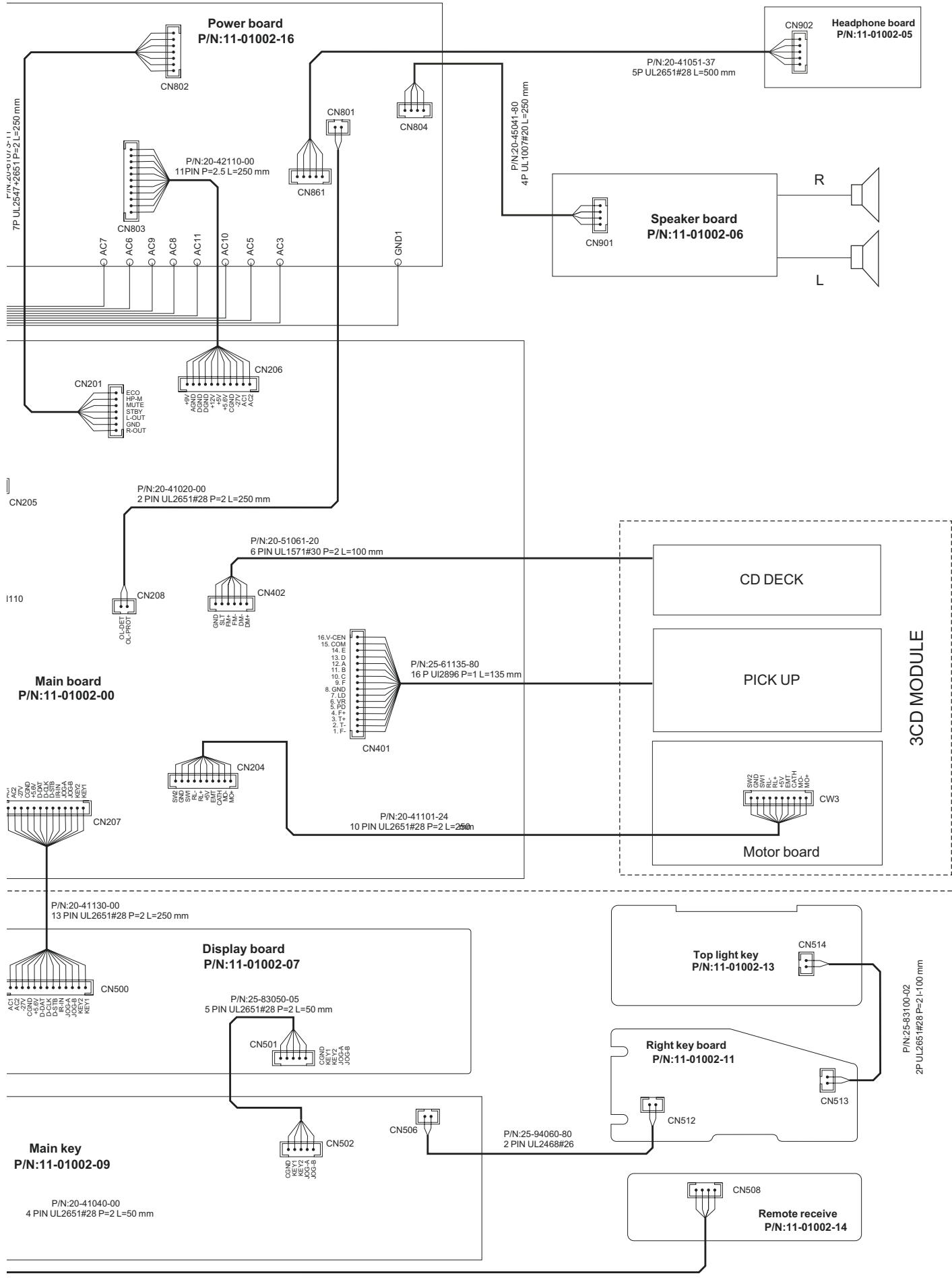
In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (■), diode (■) and ICP (●) or identified by the "Δ" mark nearby are critical for safety.

< M E M O >

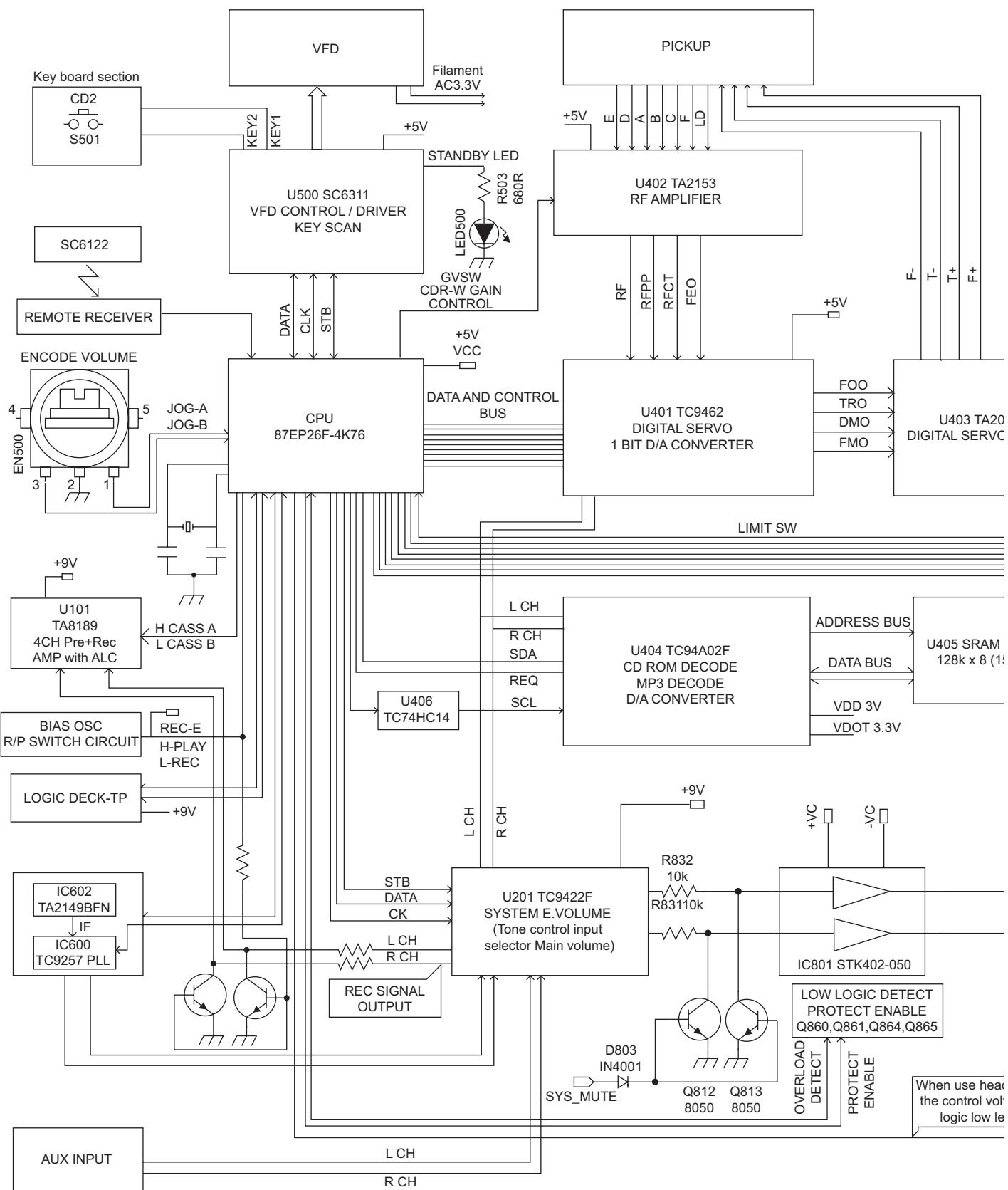
Wiring diagram

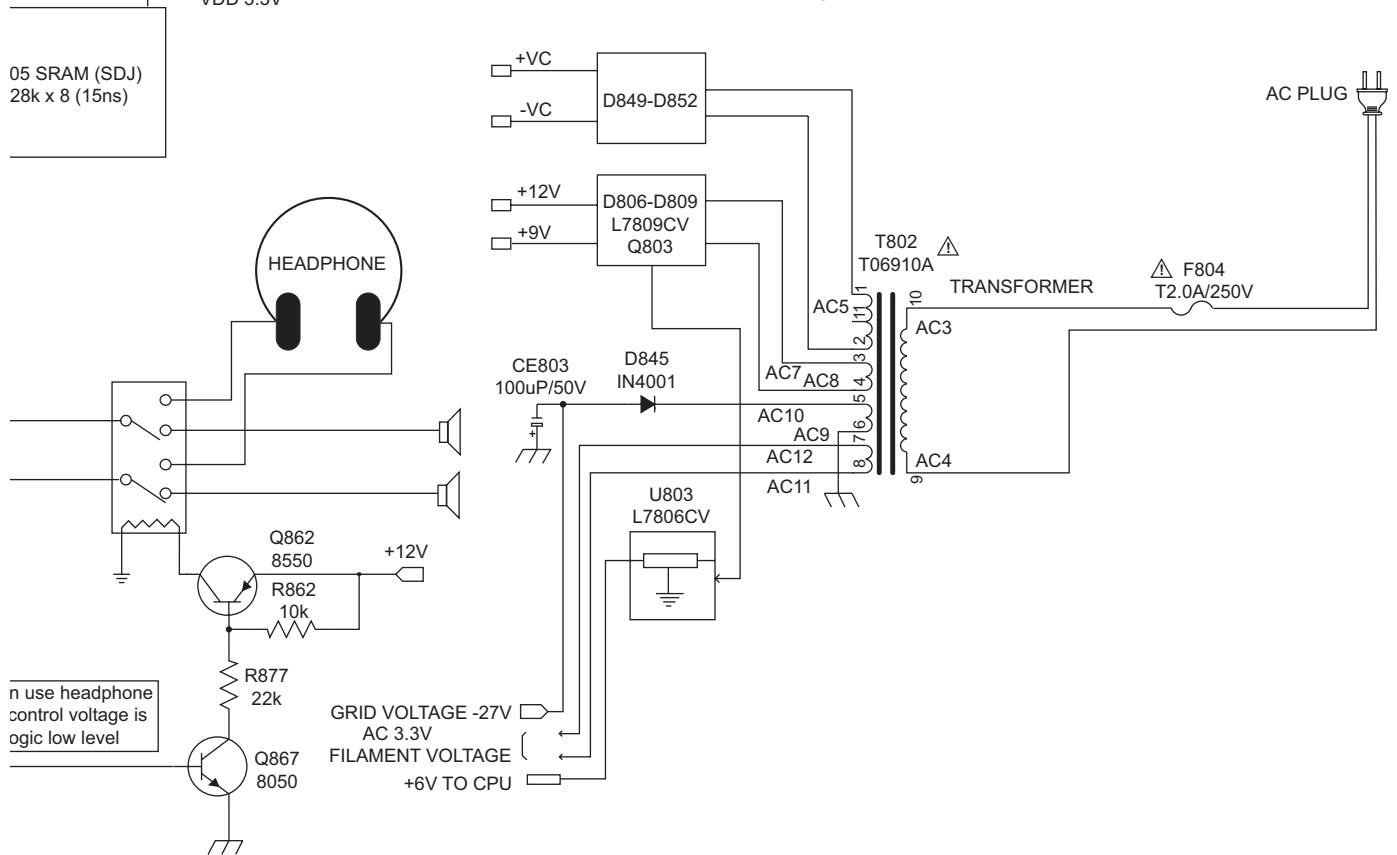
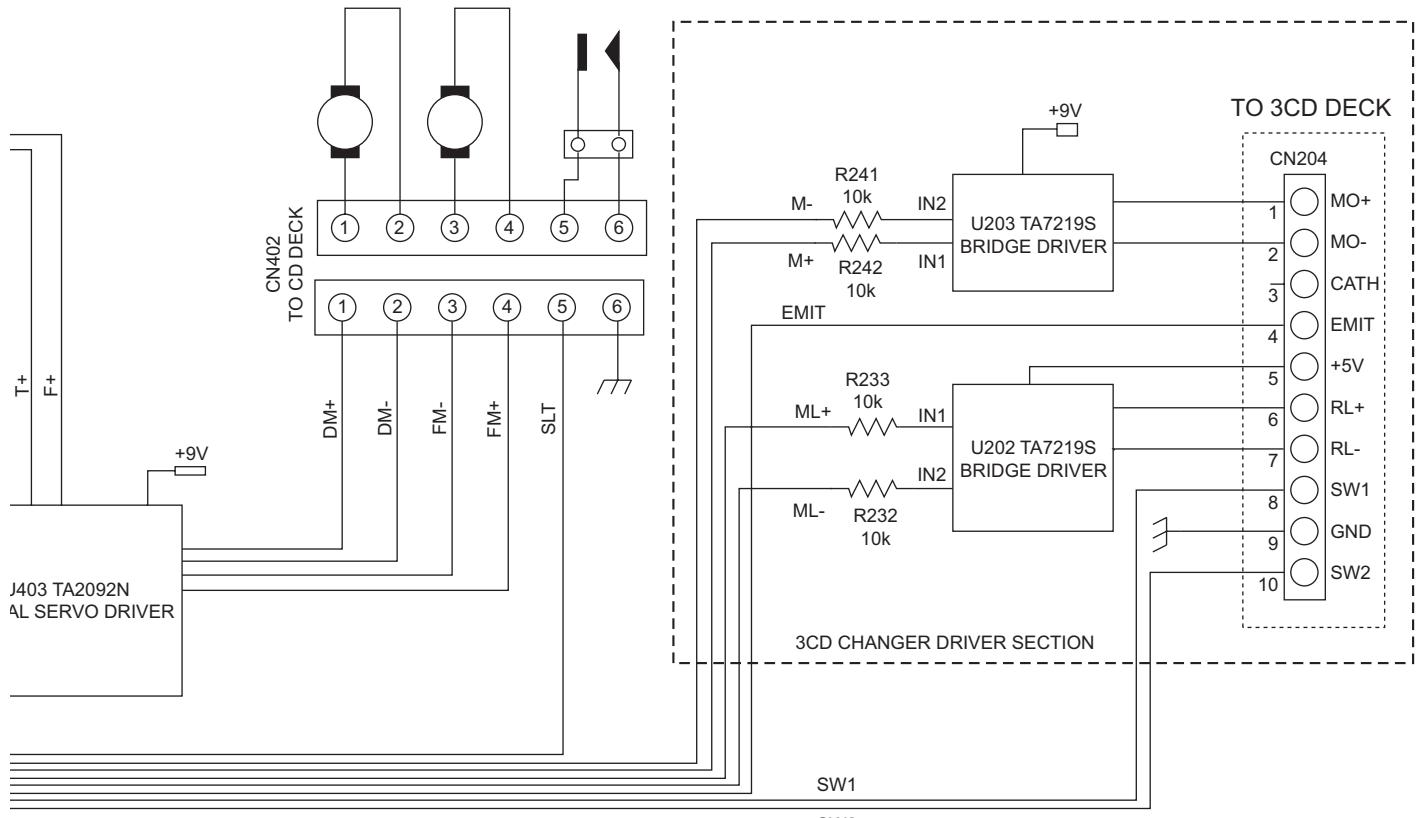
AC CORD P/N.: 30-00300-00L
(AC 120V - 60 Hz)





Block diagram

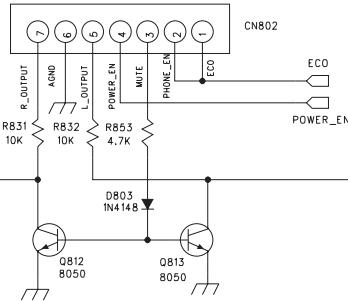




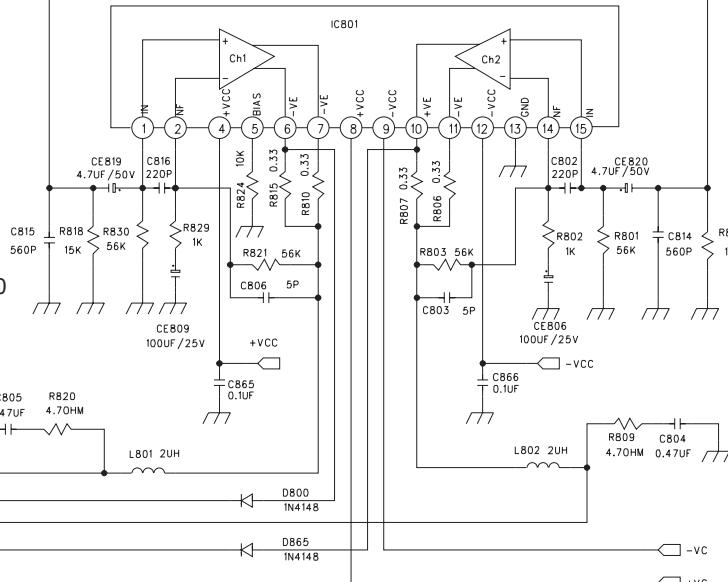
Standardschematicdiagrams

■ Primary / Power amp section

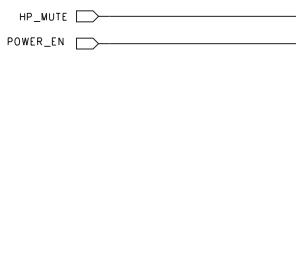
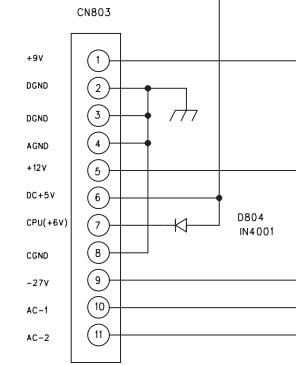
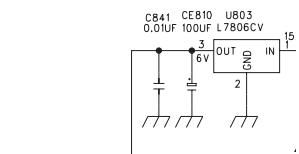
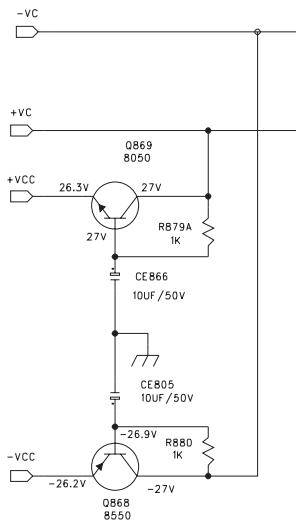
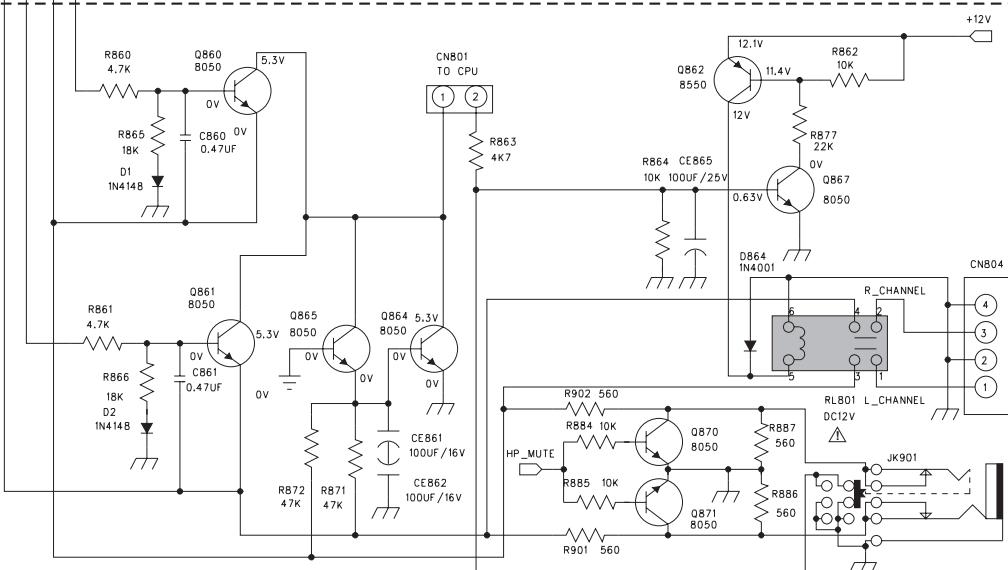
PRE_AMP

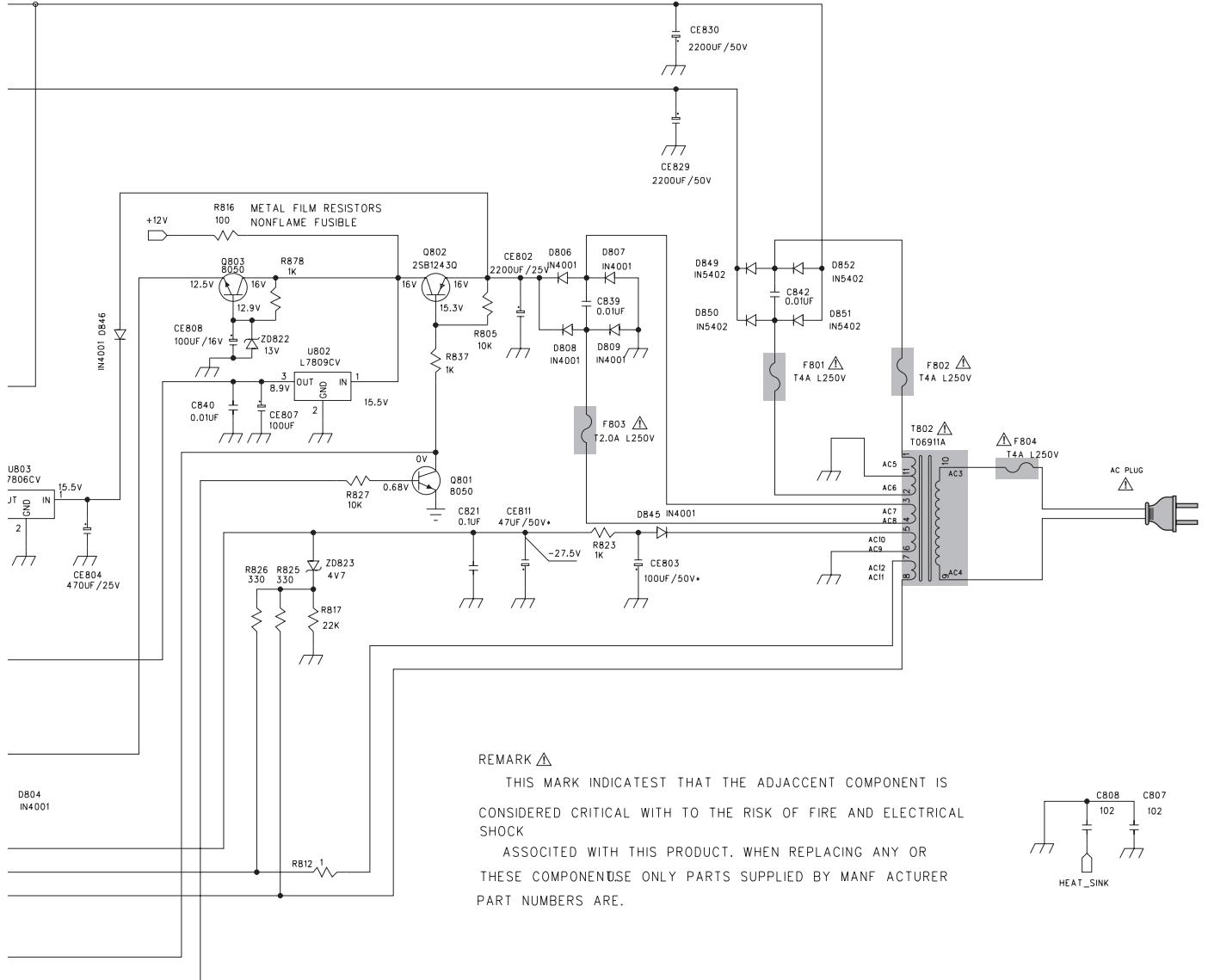


AMP
STK402-050

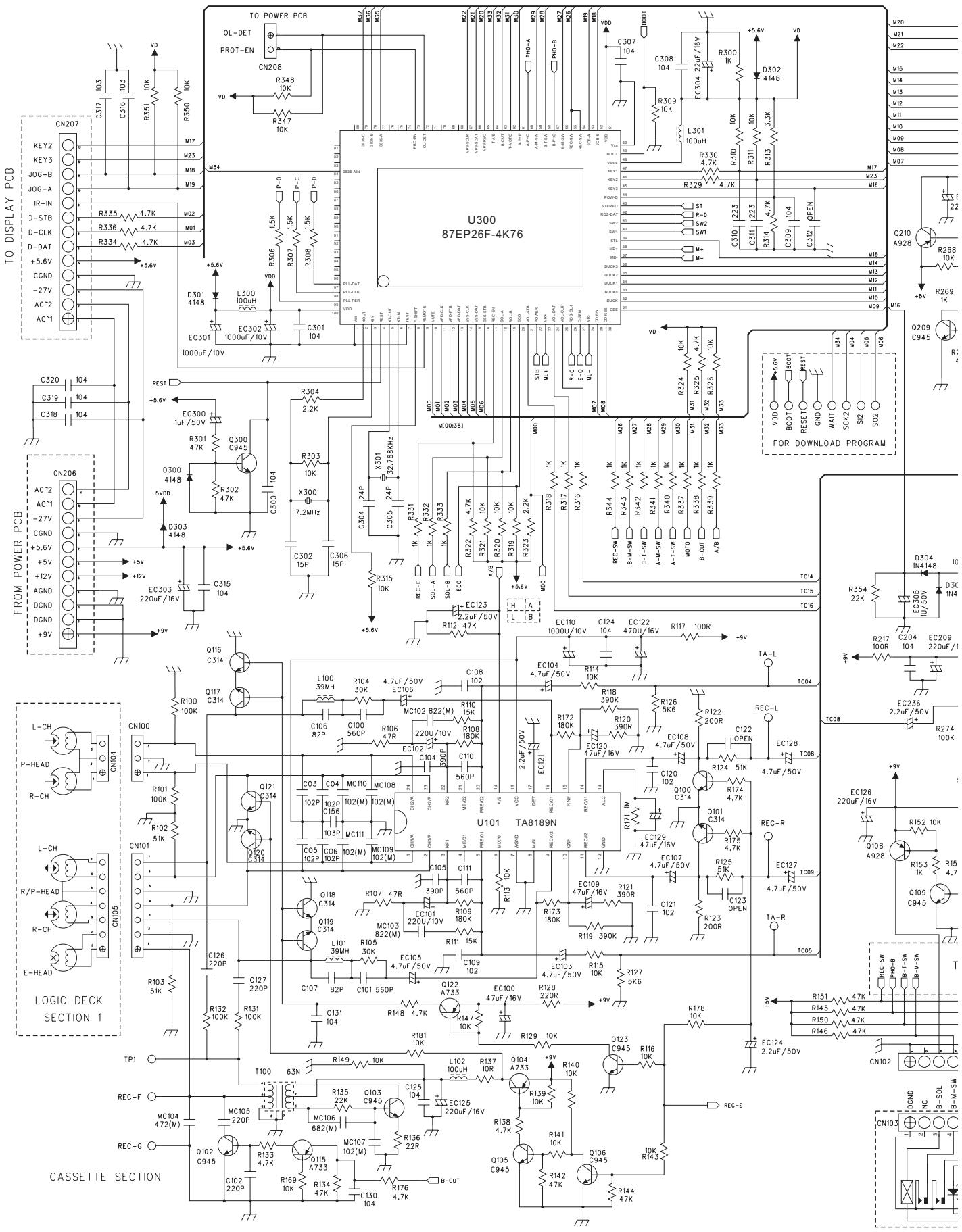


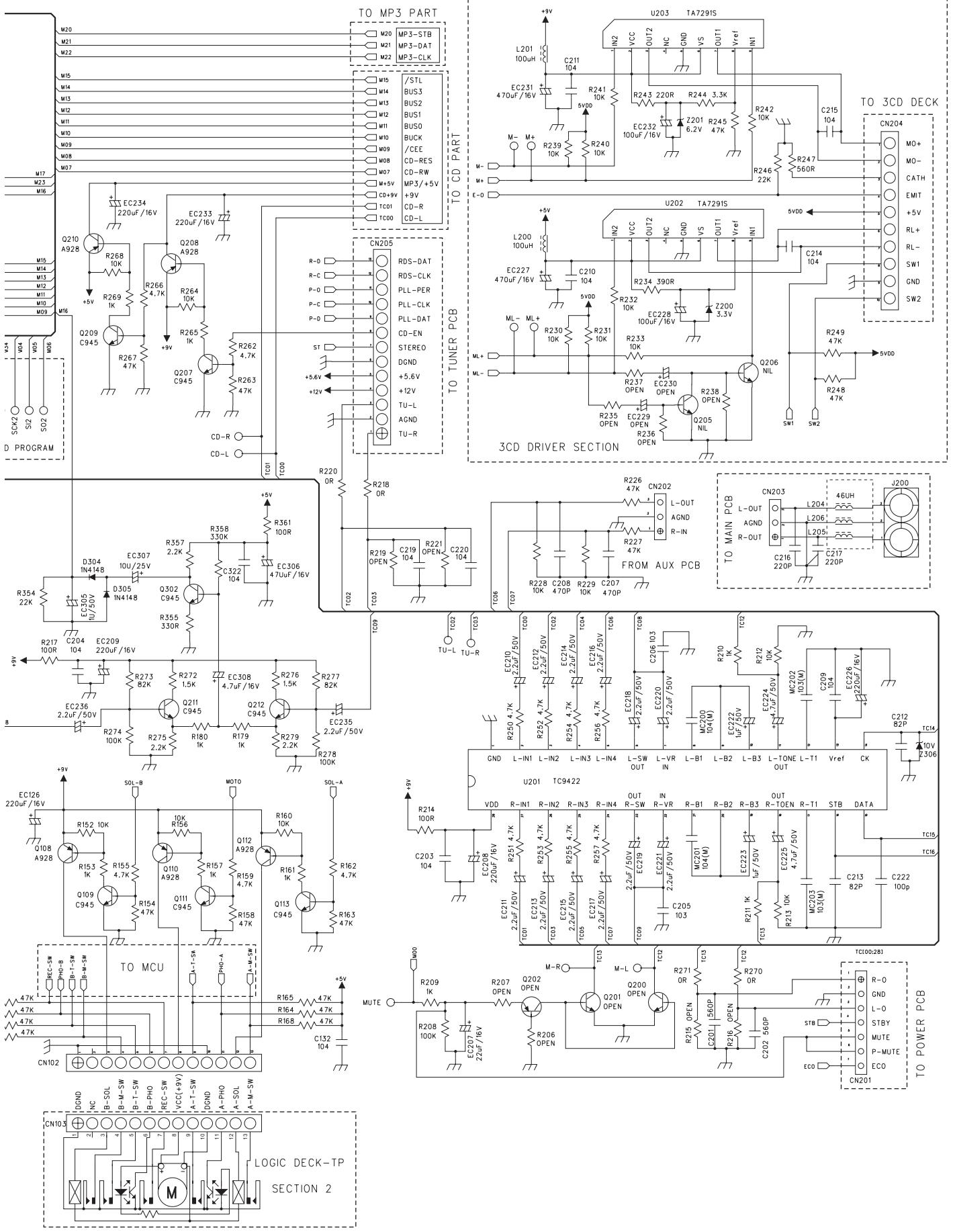
PROTECT CIRCUIT



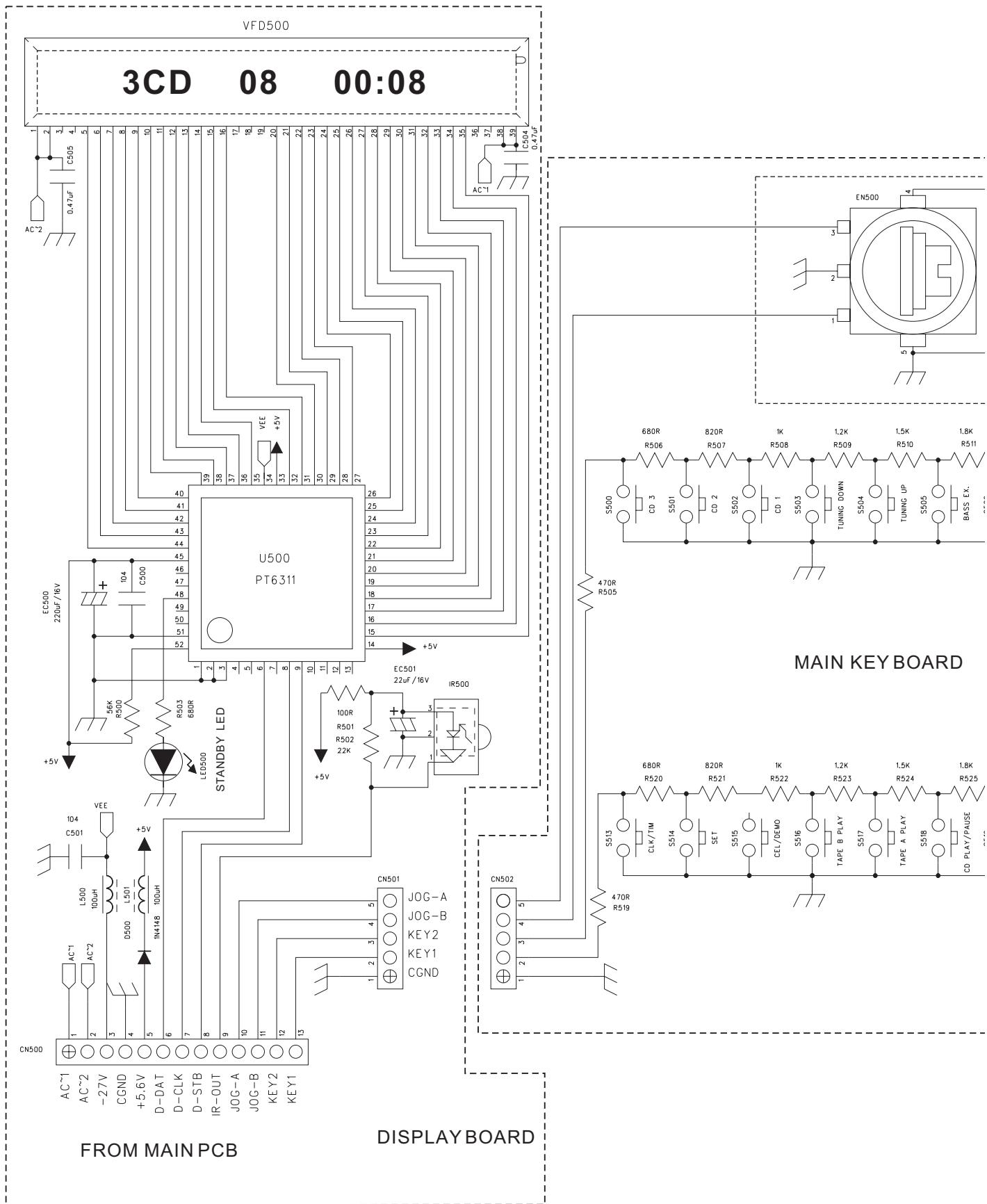


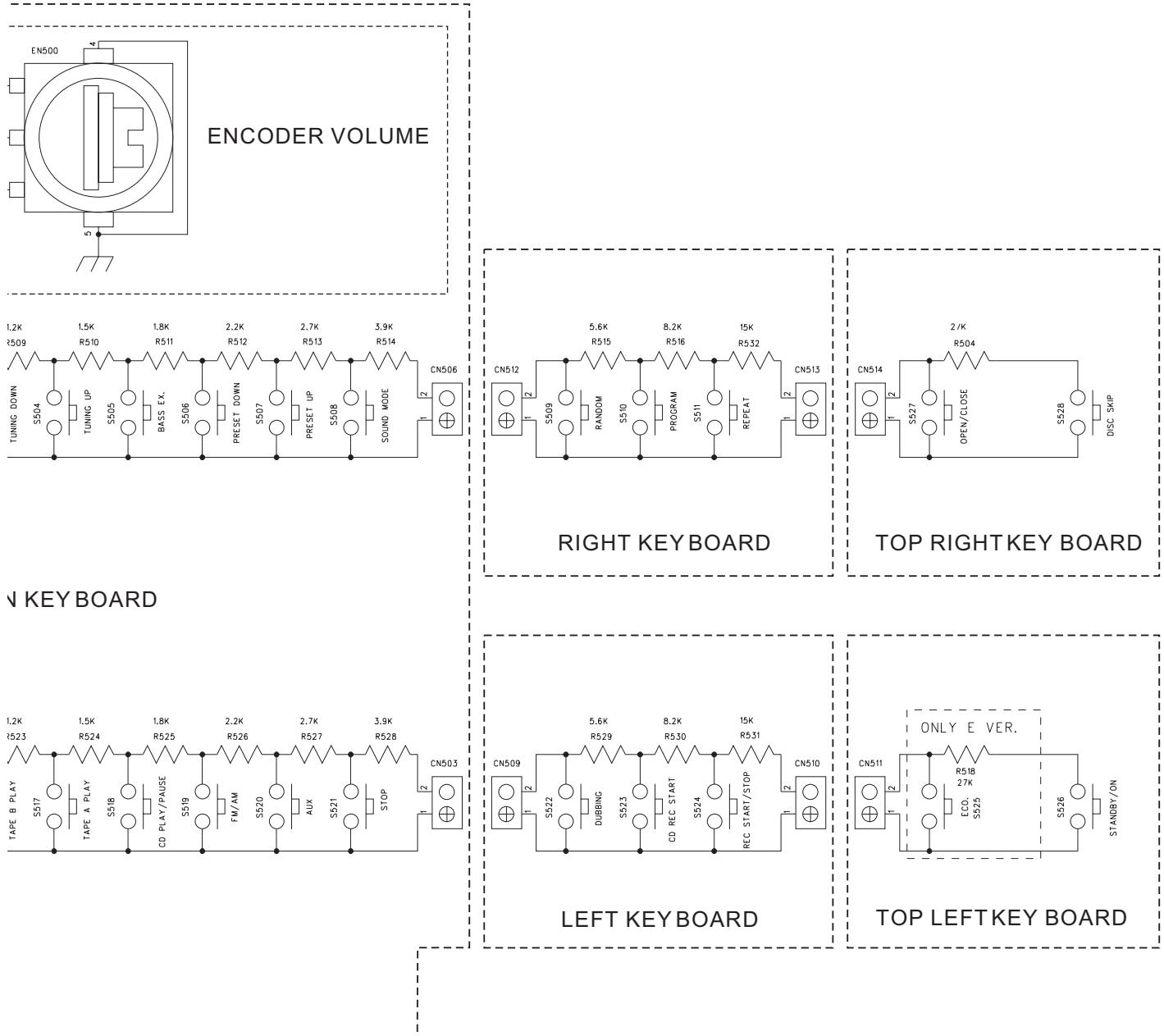
Main section



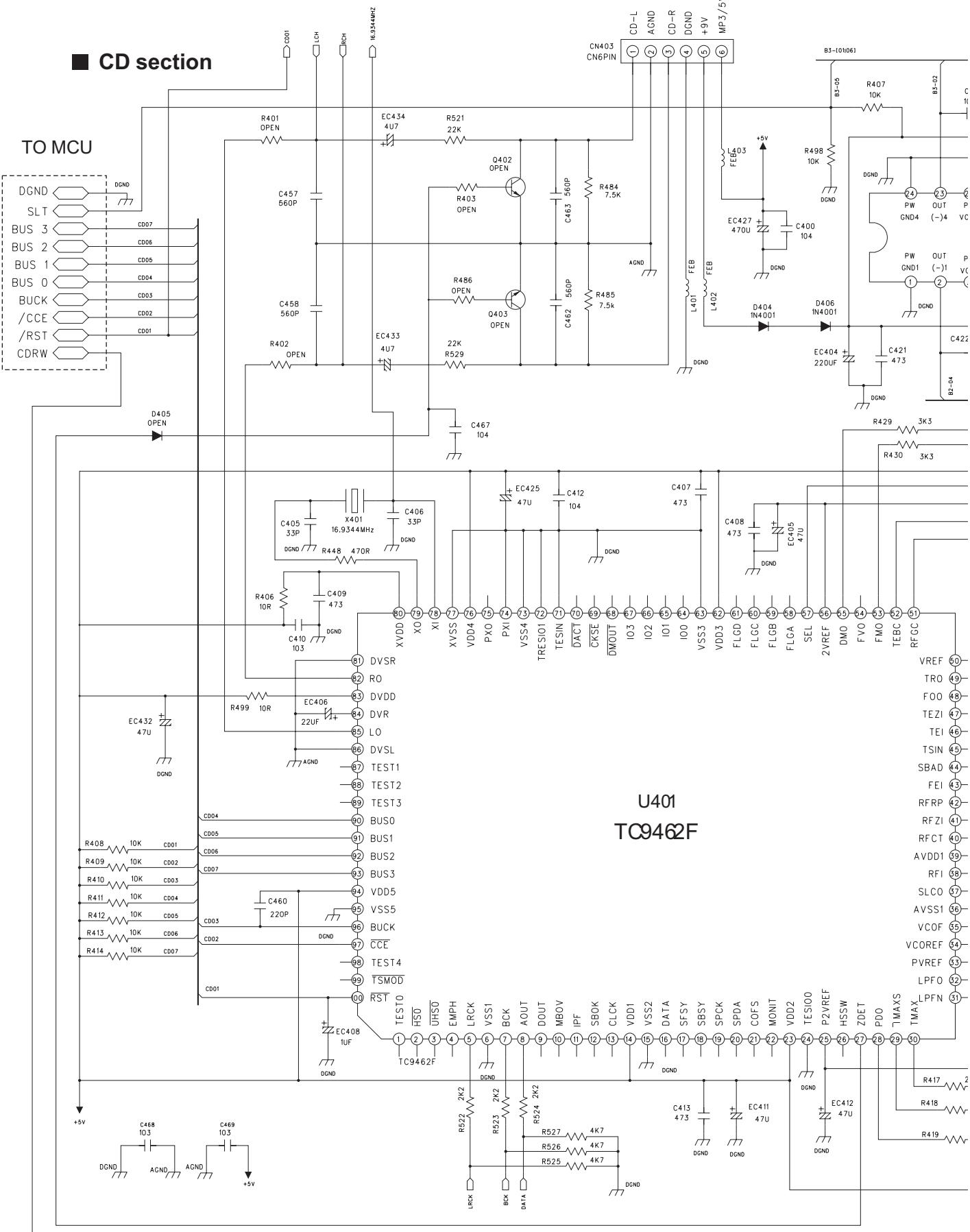


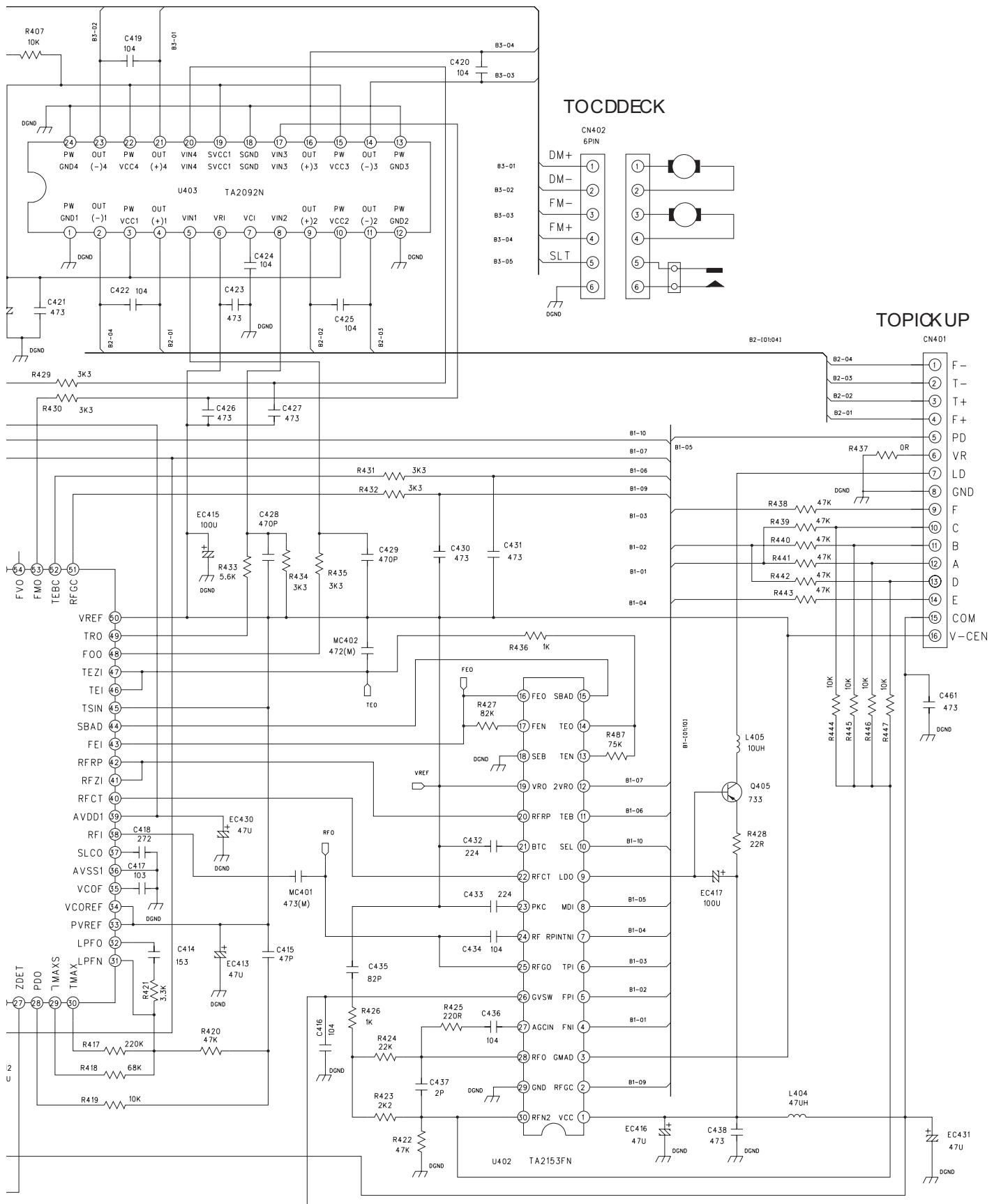
■ Display / Key control section



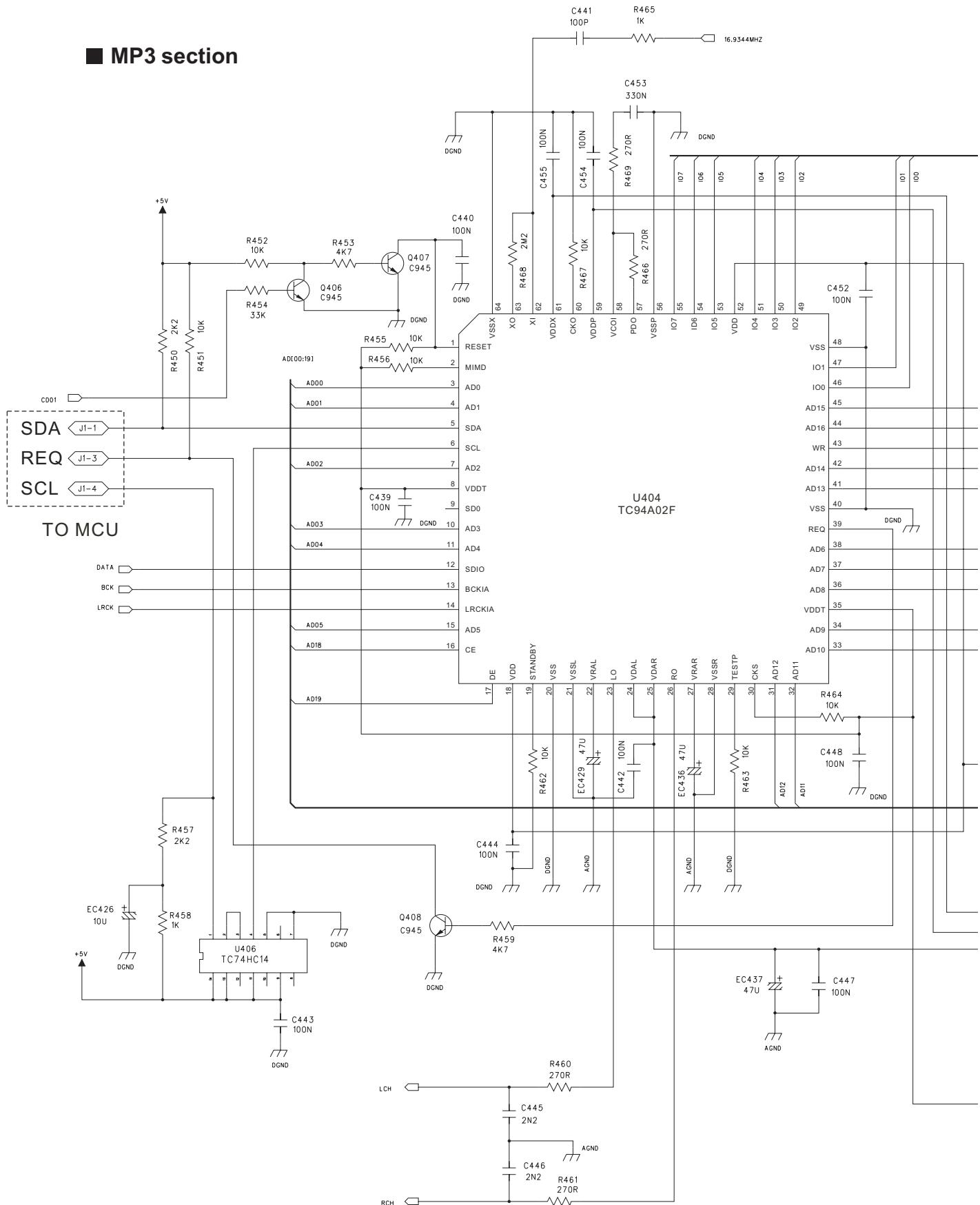


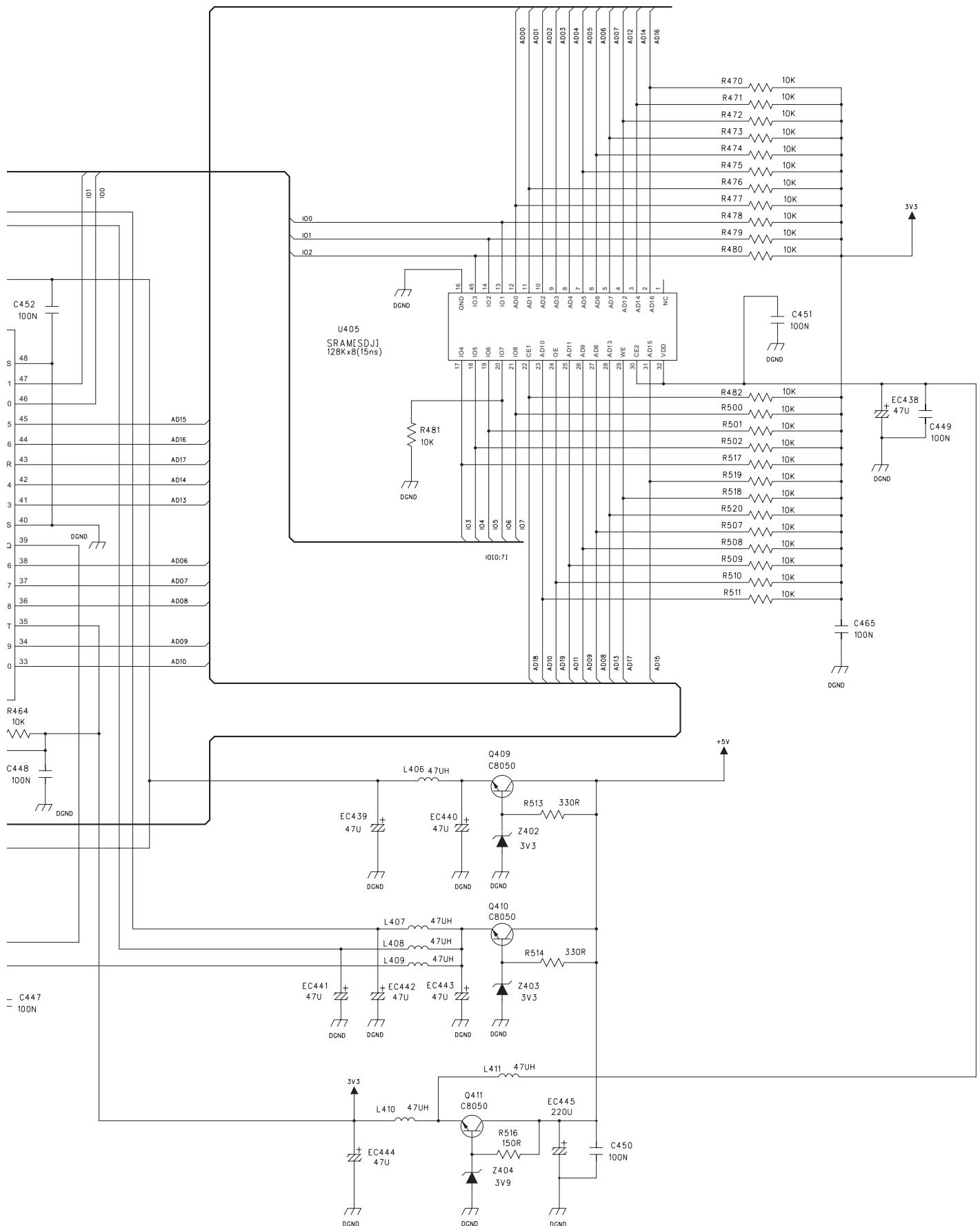
■ CD section



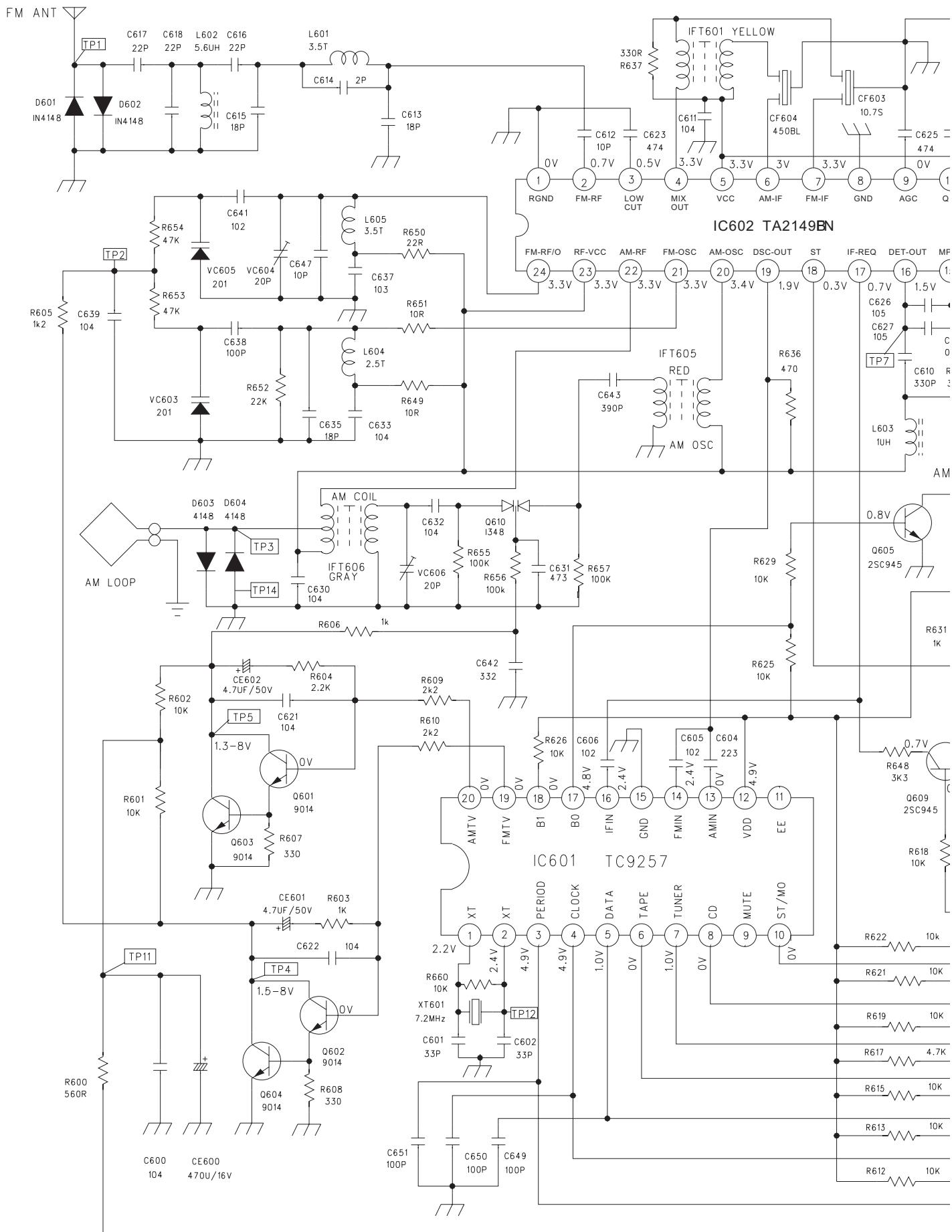


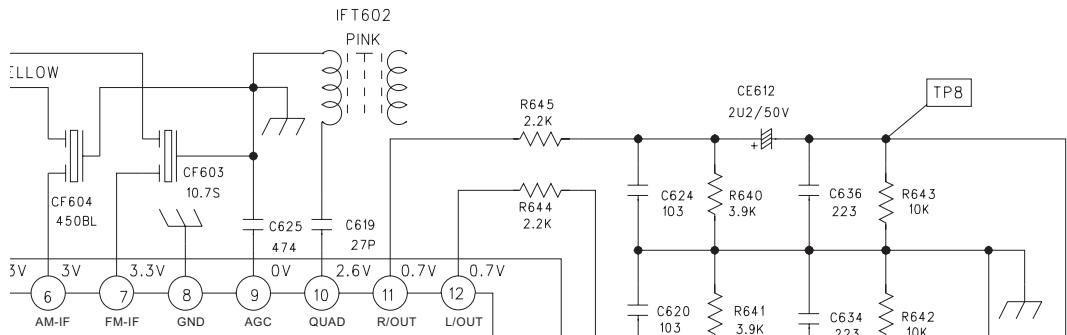
■ MP3 section



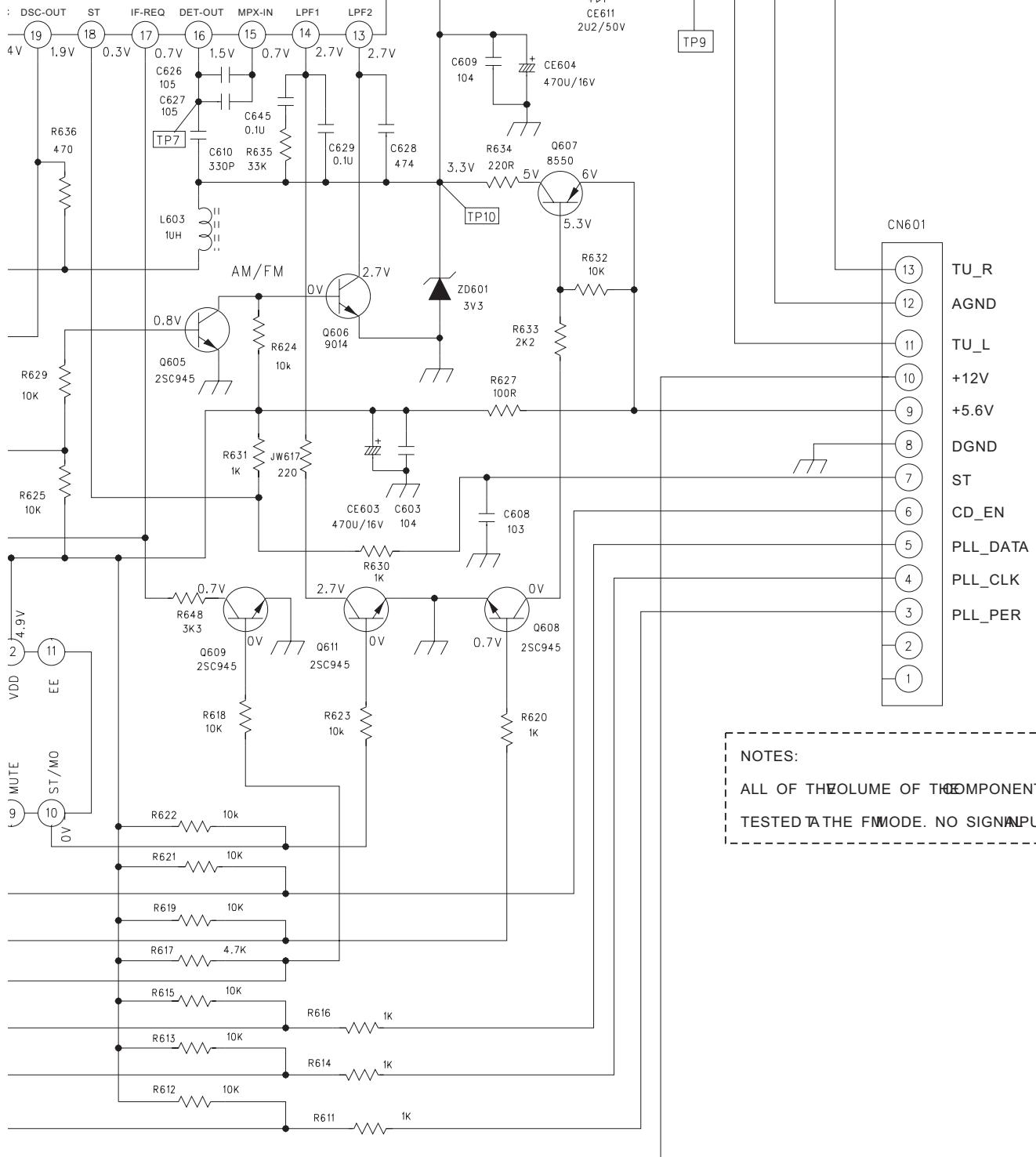


■ Tuner section

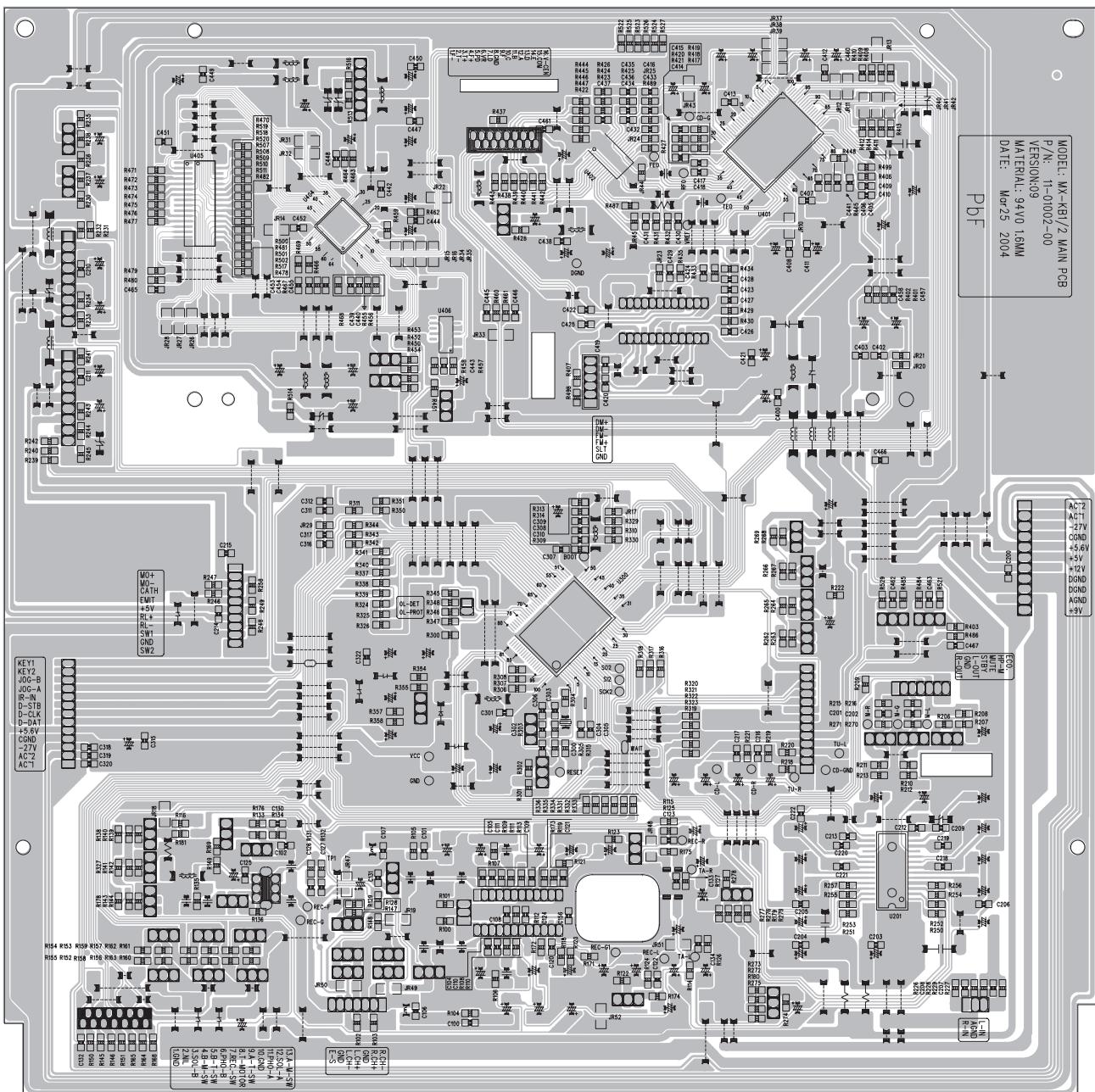




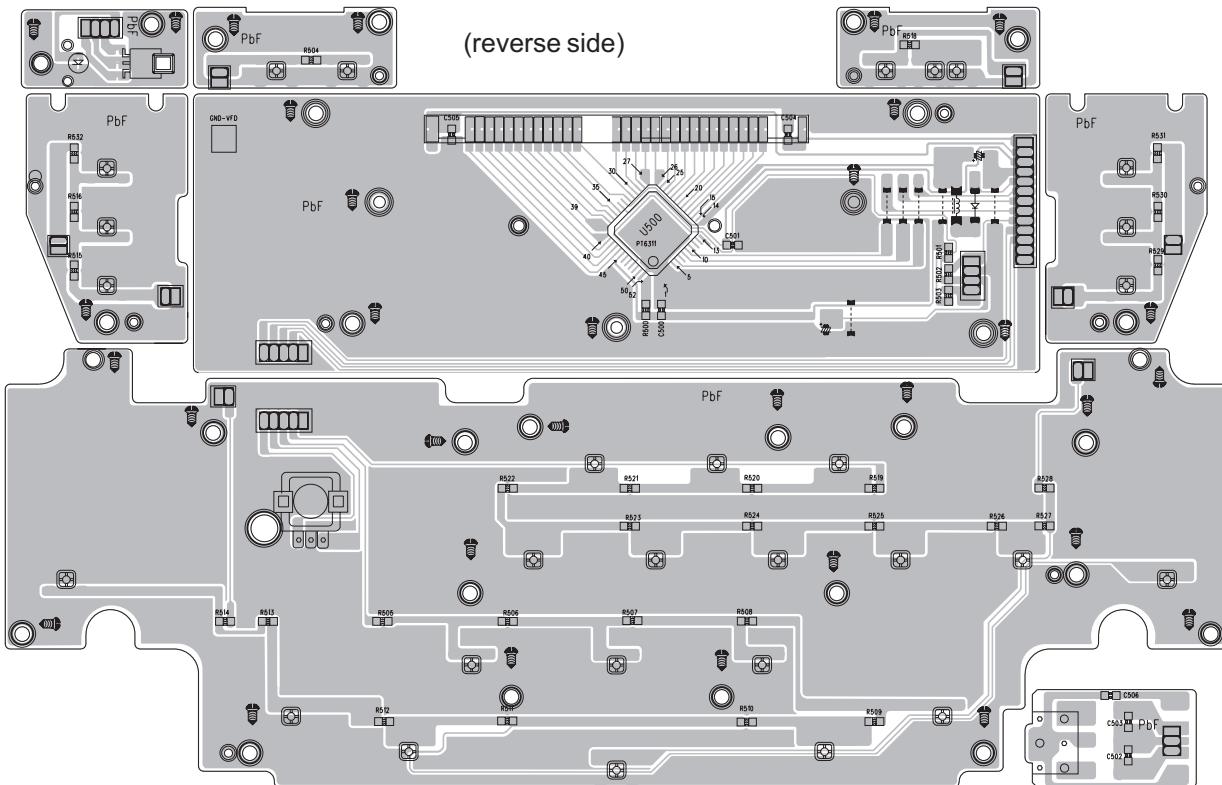
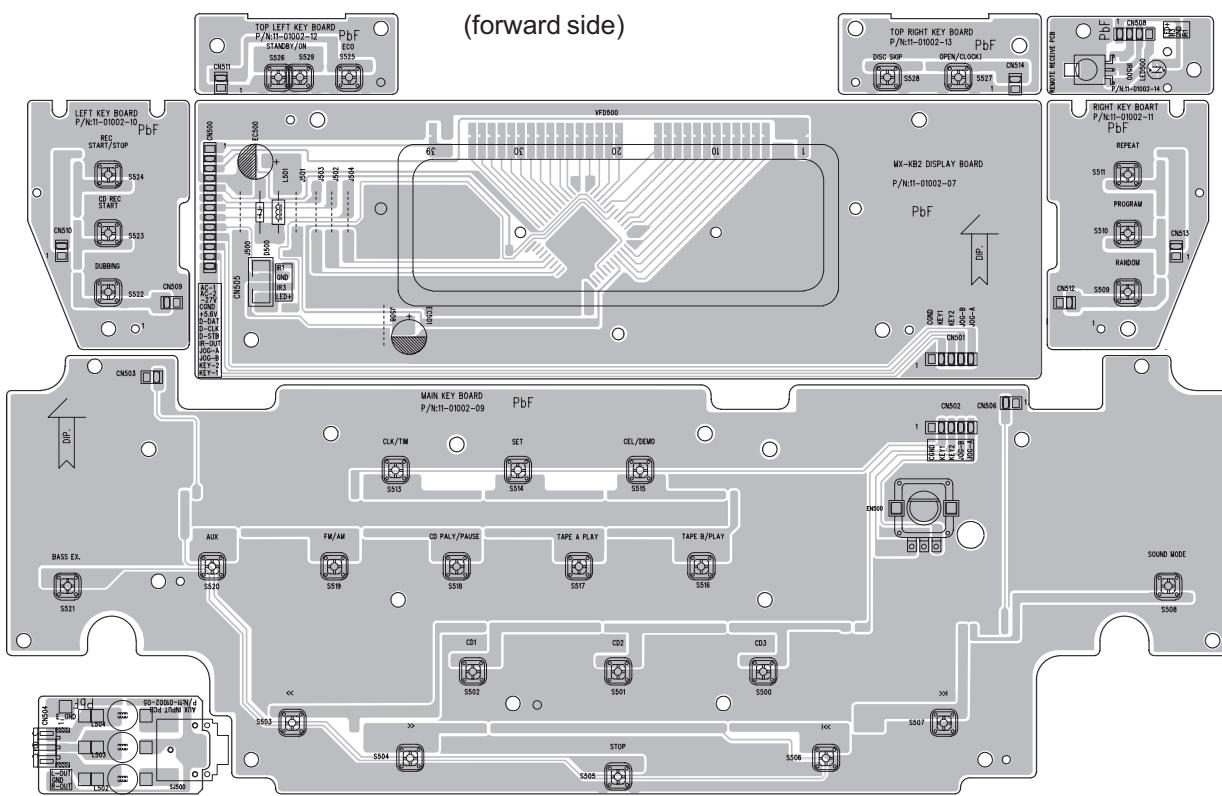
I2 TA2149BN



(reverse side)

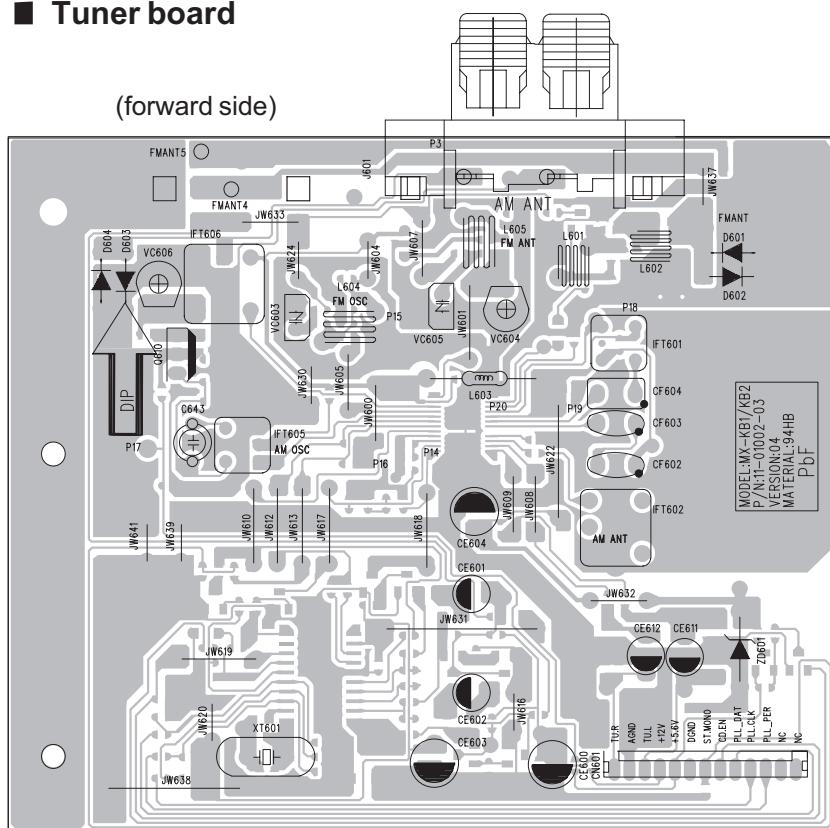


■ Display board

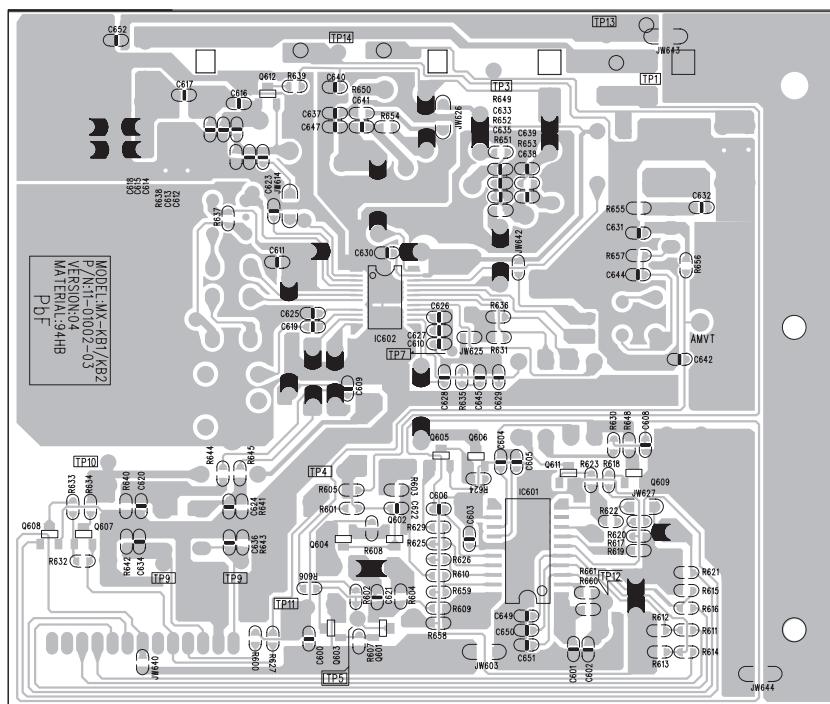


■ Tuner board

(forward side)

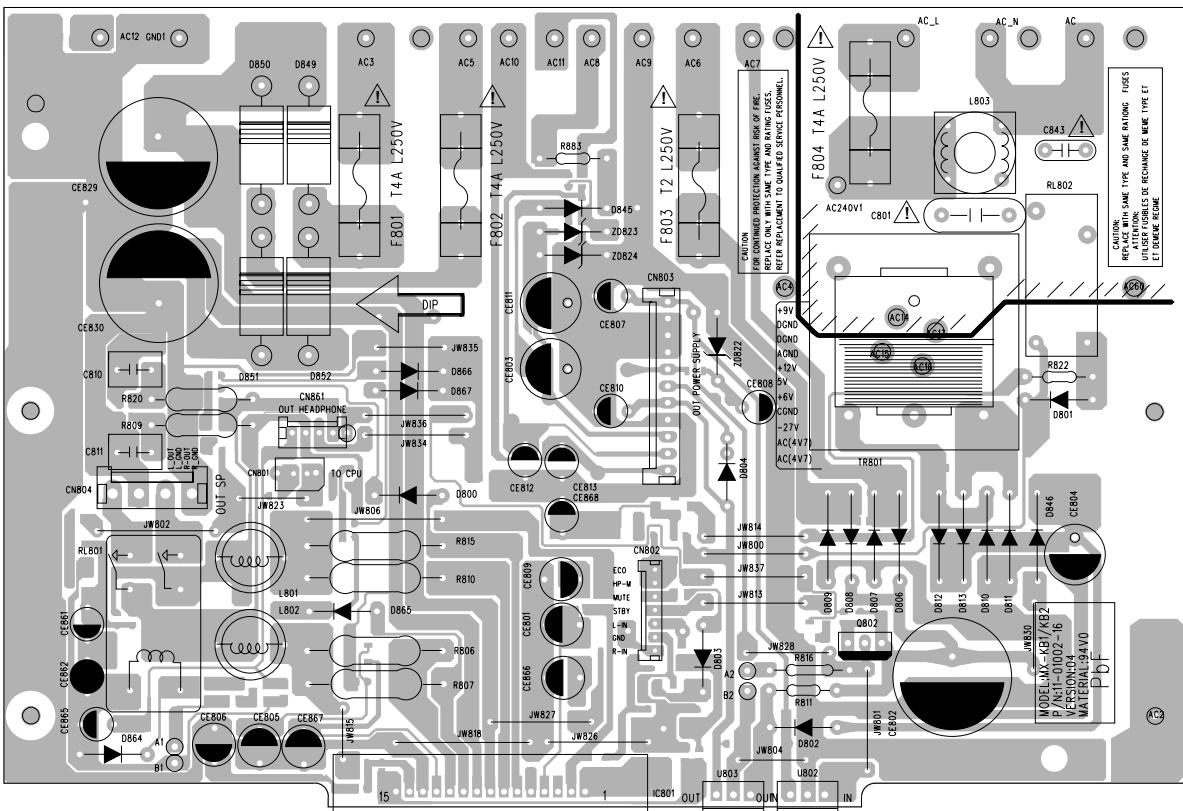


(reverse side)

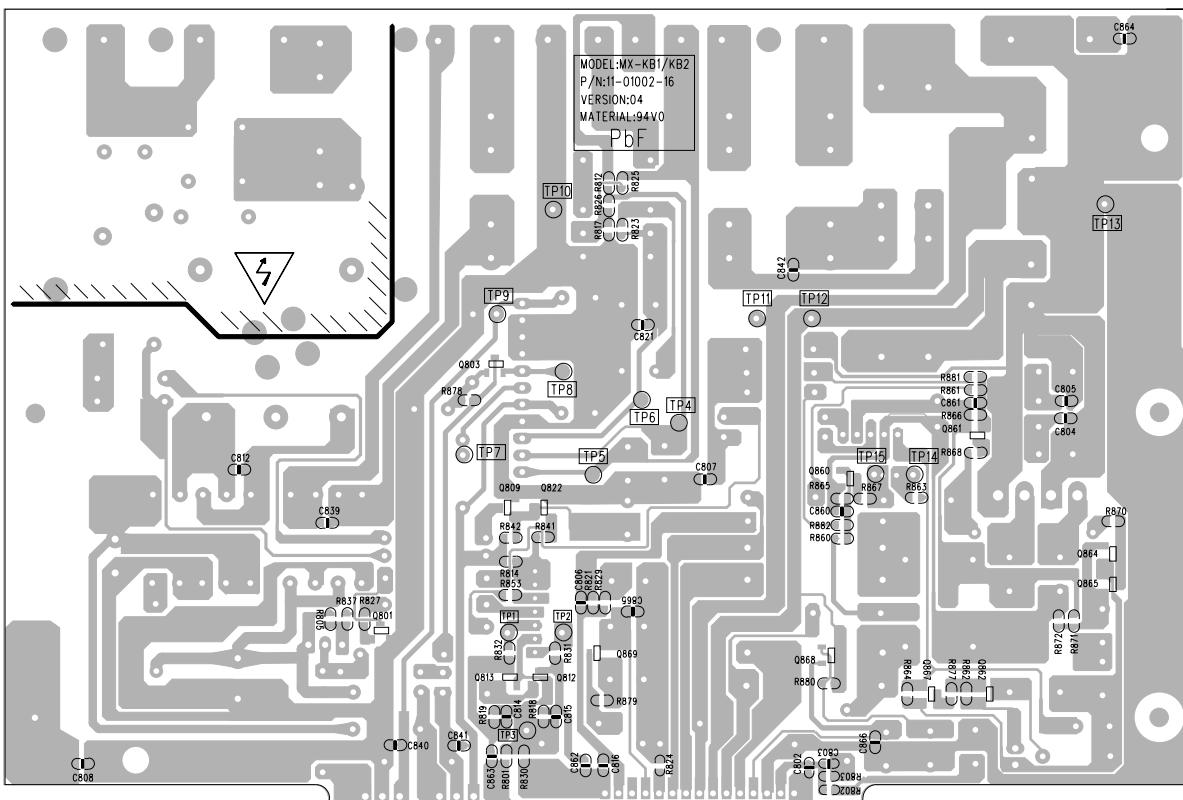


■ Trans board

(forward side)



(reverse side)



< M E M O >

JVC

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(No.MB287SCH)



Printed in Japan
WPC

PARTS LIST

[MX-KB2]
[MX-KB1]

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

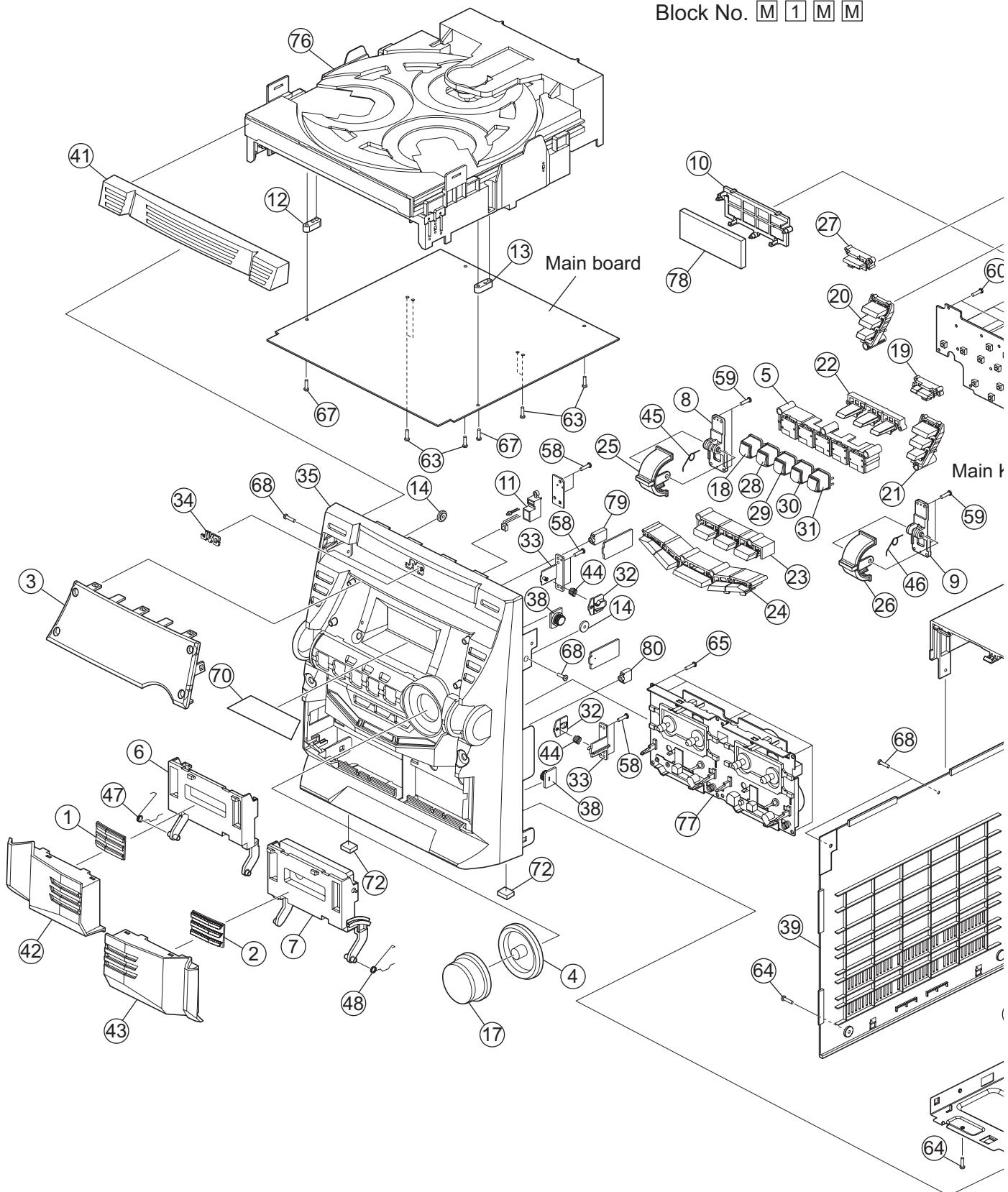


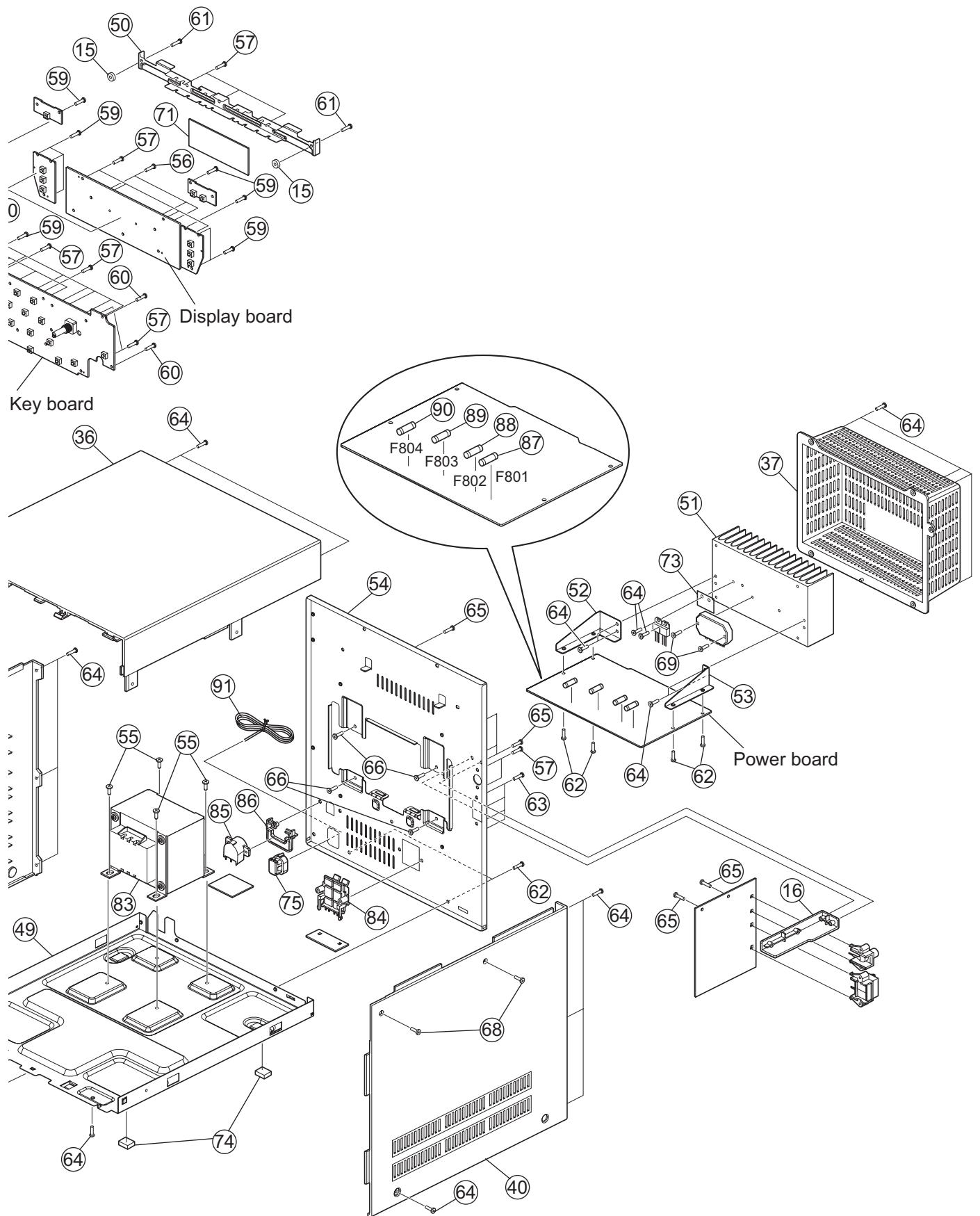
- Contents -

Exploded view of general assembly and parts list (Block No.M1)	3- 2
Electrical parts list (Block No.01~04)	3- 6
Packing materials and accessories parts list (Block No.M3)	3-14

Exploded view of general assembly and parts list

Block No. M 1 M M





General Assembly

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

△	Symbol No.	Part No.	Part Name	Description	Local
1		OW43-01001-03	CASS LENS L		
2		OW43-01001-04	CASS LENS R		
3		OW43-01001-02	DISPLAY WINDOW		KB1
3		OW43-01001-05	DISPLAY WINDOW		KB2
4		OW48-01001-00	VOLUME RING		
5		OW48-01001-01	KNOB BRACKET	FUNCTION	
6		OW48-01001-02	CASS BRACKET L		
7		OW48-01001-03	CASS BRACKET R		
8		OW48-01001-04	BASS KNOB LEVER		
9		OW48-01001-05	SOUND KNOB LEVER		
10		OW48-01001-06	VFD BRACKET		
11		OW48-01001-07	REMOTE BRACKET		
12		OW48-01001-08	PCB BRACKET L	MAIN	
13		OW48-01001-09	PCB BRACKET R	MAIN	
14		OW48-01001-10	SUPPORT BLOCK	(x2)	
15		OW48-01001-11	SUPPORT WASHER	(x2)	
16		OW48-01001-12	PCB BRACKET	TUNER	
17		OW51-01001-00	VOLUME KNOB		
18		OW53-01001-00	AUX KNOB		
19		OW53-01001-01	OPEN CLOSE KNOB		
20		OW53-01001-02	RECORD KNOB		
21		OW53-01001-03	REPEAT KNOB		
22		OW53-01001-04	CLOCK KNOB		
23		OW53-01001-05	CD KNOB		
24		OW53-01001-06	STOP KNOB		
25		OW53-01001-07	BASS KNOB		
26		OW53-01001-08	SOUND KNOB		
27		OW53-01001-09	POWER KNOB		
28		OW53-01001-11	FM/AM KNOB		
29		OW53-01001-12	CD PLAY KNOB		
30		OW53-01001-13	TAPE A KNOB		
31		OW53-01001-14	TAPE B KNOB		
32		OW55-00005-80	LATCH	(x2)	
33		OW55-00005-81	LATCH HOLDER	(x2)	
34		OW55-01001-00	JVC BADGE		
35		OW60-01001-02	FRONT PANEL		
36		OW60-01001-01	TOP CABINET		
37		OW61-01001-00	HEATSINK COVER		
38		OW63-00303-80	DAMPER GEAR	for CASS DOOR(x2)	
39		OW65-01001-00	SIDE PANEL L		
40		OW65-01001-01	SIDE PANEL R		
41		OW66-01001-00	3 CD DOOR		
42		OW66-01001-01	CASS DOOR L		
43		OW66-01001-02	CASS DOOR R		
44		OW36-00005-80	CASS SPRING	(x2)	
45		OW36-01001-00	SPRING	BASS KNOB	
46		OW36-01001-01	SPRING	SOUND KNOB	
47		OW36-01001-02	SPRING	CASS DOOR L	
48		OW36-01001-03	SPRING	CASS DOOR R	
49		OW39-01001-01	BOTTOM		
50		OW39-01001-03	SUPPORT PLATE	for DISPLAY&KEY PCB	
51		OW39-01001-04	HEAT SINK		
52		OW39-01001-05	HEAT SINK BKT L		
53		OW39-01001-06	HEAT SINK BKT R		
54		OW39-01001-17	BACK PLATE		KB1
54		OW39-01001-10	BACK PLATE		KB2
55		OW40-84006-53	SCREW	(x4)	
56		OW40-92008-01	SCREW	(x3)	
57		OW40-92608-11	SCREW	(x13)	
58		OW40-92610-01	SCREW	(x6)	
59		OW40-92612-01	SCREW	(x19)	
60		OW40-92615-01	SCREW	(x6)	
61		OW40-92616-01	SCREW	(x2)	
62		OW40-93006-51	SCREW	(x6)	
63		OW40-93008-11	SCREW	(x10)	
64		OW40-93008-51	SCREW	(x22)	
65		OW40-93010-01	SCREW	(x12)	
66		OW40-93010-51	SCREW	(x4)	
67		OW40-93015-01	SCREW	(x4)	
68		OW40-93015-02	SCREW	(x6)	
69		OW40-93015-51	SCREW	(x2)	
70		OW43-01001-00	MIRROR SHEET		
71		OW68-91002-00	SHIELD PAPER		
72		OW81-01001-00	RUBBER FOOT	(x2)	

	Symbol No.	Part No.	Part Name	Description	Local
	73	OW81-01001-01	MICA SHEET		
	74	OW81-01001-02	RUBBER FOOT	(x2)	
▲	75	OW84-10002-80	STRAIN RELIEF		
	76	OW98-01001-00	CD CHANGER	CMS-FR3BN	
	77	OW94-01002-00	CASSETTE MECHA	CWM43FF44	
	78	OW91-01002-00	VFD DISPLAY		
	79	OW12-21235-80	HEADPHONE JACK	EJ-3511-0202B	
	80	OW12-10035-12	PHONE JACK	F3.5 ST-101	
▲	83	OW15-01002-05	POWER TRANS	EI-76	KB1
▲	83	OW15-01002-02	POWER TRANS	EI-76	KB2
	84	OW12-00006-81	SPK TERMINAL	CJ-0007-040	
▲	85	OW16-60014-80	VOL SELECTOR		
	86	OW48-01001-14	BRACKET	VOLTAGE SELECTOR	
▲	87	OW33-57402-02	FUSE	F801 4A 250V	
▲	88	OW33-57402-02	FUSE	F802 4A 250V	
▲	89	OW33-57202-03W	FUSE	F803 2A 250V	
▲	90	OW33-57402-02	FUSE	F804 4A 250V	
▲	91	OW30-00300-01L	AC CORD		

△ Symbol No.	Part No.	Part Name	Description	Local
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Power board

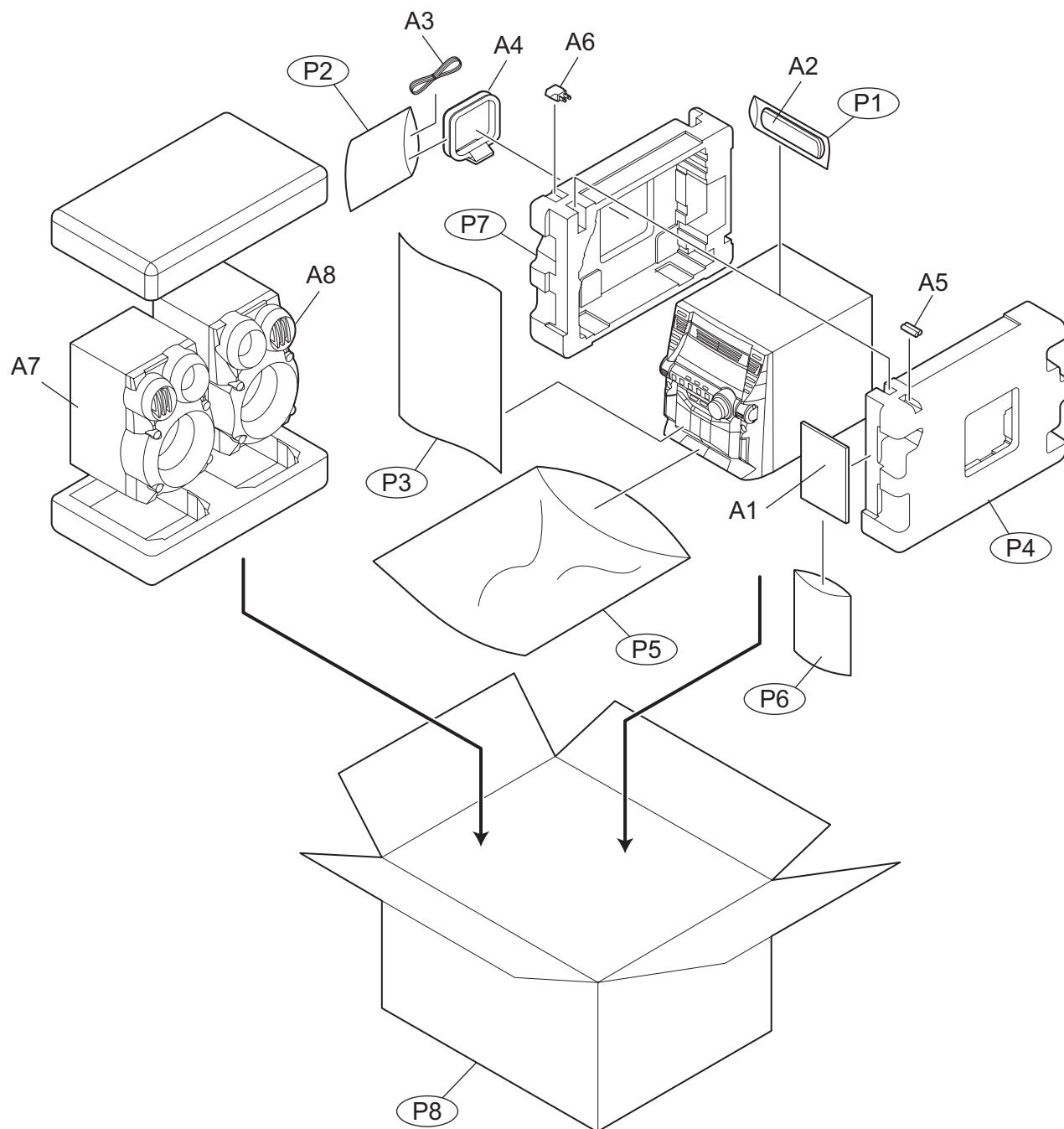
Block No. [0][2]

△ Symbol No.	Part No.	Part Name	Description	Local
	IC801	STK402-050	IC(HYBRID)	OW03-40205-00
	U802	L7809CV	IC	OW03-07809-85
	U803	L7806CV	IC	OW03-07806-84
JR10	Q801	8050	TRANSISTOR	OW01-08050-80
JR11	Q802	2SB1243	TRANSISTOR	OW01-01243-80
JR12	Q803	8050	TRANSISTOR	OW01-08050-80
JR13	Q812	8050	TRANSISTOR	OW01-08050-80
JR14	Q813	8050	TRANSISTOR	OW01-08050-80
JR15	Q860	8050	TRANSISTOR	OW01-08050-80
JR16	Q861	8050	TRANSISTOR	OW01-08050-80
JR17	Q862	8550	TRANSISTOR	OW01-08550-86
JR18	Q864	8050	TRANSISTOR	OW01-08050-80
JR19	Q865	8050	TRANSISTOR	OW01-08050-80
JR20	Q867	8050	TRANSISTOR	OW01-08050-80
JR21	Q868	8550	TRANSISTOR	OW01-08550-86
JR22	Q869	8050	TRANSISTOR	OW01-08050-80
JR23	Q870	8050	TRANSISTOR	OW01-08050-80
JR24	Q871	8050	TRANSISTOR	OW01-08050-80
JR25	D1	1N4148	DIODE	OW02-04148-81
JR26	D2	1N4148	DIODE	OW02-04148-81
JR27	D800	1N4148	DIODE	OW02-04148-81
JR28	D803	1N4148	DIODE	OW02-04148-81
JR29	D804	1N4001	DIODE	OW02-04001-81
JR31	D806	1N4001	DIODE	OW02-04001-81
JR32	D807	1N4001	DIODE	OW02-04001-81
JR33	D808	1N4001	DIODE	OW02-04001-81
JR34	D809	1N4001	DIODE	OW02-04001-81
JR35	D845	1N4001	DIODE	OW02-04001-81
JR37	D846	1N4001	DIODE	OW02-04001-81
JR38	D849	1N5402	DIODE	OW02-05402-80
JR39	D850	1N5402	DIODE	OW02-05402-80
JR40	D851	1N5402	DIODE	OW02-05402-80
JR41	D852	1N5402	DIODE	OW02-05402-80
JR42	D864	1N4001	DIODE	OW02-04001-81
JR43	D865	1N4148	DIODE	OW02-04148-81
JR44	ZD822	13V0.5W	Z DIODE	OW02-50130-80
JR45	ZD823	4.7V0.5W	Z DIODE	OW02-50047-80
JR48	C802	OW05-73221-00	C CAPACITOR	220pF
JR49	C803	OW05-73050-05	C CAPACITOR	5pF
JR50	C804	OW05-73474-00	C CAPACITOR	0.47uF
JR51	C805	OW05-73474-00	C CAPACITOR	0.47uF
JR52	C806	OW05-73050-05	C CAPACITOR	5pF
MC102	C807	OW05-73102-00	C CAPACITOR	1000pF
MC103	C808	OW05-73102-00	C CAPACITOR	1000pF
MC104	C814	OW05-73561-00	C CAPACITOR	560pF
MC105	C815	OW05-73561-00	C CAPACITOR	560pF
MC106	C816	OW05-73221-00	C CAPACITOR	220pF
MC107	C821	OW05-73104-00	C CAPACITOR	0.1uF
MC108	C839	OW05-73103-00	C CAPACITOR	0.01uF
MC109	C842	OW05-73103-00	C CAPACITOR	0.01uF
MC110	C860	OW05-73474-00	C CAPACITOR	0.47uF
MC111	C861	OW05-73474-00	C CAPACITOR	0.47uF
MC401	C862	OW05-73105-06F	C CAPACITOR	1uF
MC402	P1-P2	OW05-77104-82	C CAPACITOR	1uF
P3-P4	C863	OW05-73105-06F	C CAPACITOR	1uF
X300	C865	OW05-73104-00	C CAPACITOR	0.1uF
X301	C866	OW05-73104-00	C CAPACITOR	0.1uF
X401	C901	OW05-70103-05	C CAPACITOR	0.01uF
XXXXX	C902	OW05-70103-05	C CAPACITOR	0.01uF
XXXXX	R801	OW07-75563-50	C RESISTOR	56 Kohm 1/8W
XXXXX	R802	OW07-75102-50	C RESISTOR	1 Kohm 1/8W
XXXXX	R803	OW07-75563-50	C RESISTOR	56 Kohm 1/8W
XXXXX	R805	OW07-75103-50	C RESISTOR	10 Kohm 1/8W
XXXXX	R806	OW07-74031-40	C RESISTOR	0.33 ohm 1W
XXXXX	R807	OW07-74031-40	C RESISTOR	0.33 ohm 1W
XXXXX	R809	OW07-75047-10	C RESISTOR	4.7 ohm 1W
XXXXX	R810	OW07-74031-40	C RESISTOR	0.33 ohm 1W
XXXXX	R812	OW07-75010-50	C RESISTOR	1 ohm 1/8W
XXXXX	R815	OW07-74031-40	C RESISTOR	0.33 ohm 1W
XXXXX	R816	OW07-70101-11	C RESISTOR	100 ohm 1/2W
XXXXX	R817	OW07-75223-50	C RESISTOR	22 Kohm 1/8W

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
R612	OW07-75103-50	C RESISTOR	10 Kohm 1/8W		XXXXX	OW08-04344-88	FERRITE CORE	T-25 X 15 X 10	
R613	OW07-75103-50	C RESISTOR	10 Kohm 1/8W		XXXXX	OW11-01002-03	TUNER PCB		
R614	OW07-75102-50	C RESISTOR	1 Kohm 1/8W						
R615	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R616	OW07-75102-50	C RESISTOR	1 Kohm 1/8W						
R617	OW07-75472-50	C RESISTOR	4.7 Kohm 1/8W						
R618	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R619	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R620	OW07-75102-50	C RESISTOR	1 Kohm 1/8W	KB1					
R621	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R622	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R623	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R624	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R625	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R626	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R627	OW07-75471-50	C RESISTOR	470 ohm 1/8W						
R629	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R630	OW07-75102-50	C RESISTOR	1 Kohm 1/8W						
R631	OW07-75102-50	C RESISTOR	1 Kohm 1/8W						
R632	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R633	OW07-75222-50	C RESISTOR	2.2 Kohm 1/8W						
R634	OW07-75221-50	C RESISTOR	220 ohm 1/8W						
R635	OW07-75333-06	C RESISTOR	33 Kohm 1/16W						
R637	OW07-75331-50	C RESISTOR	330 ohm 1/8W						
R639	OW07-75473-50	C RESISTOR	47 Kohm 1/8W						
R640	OW07-75392-50	C RESISTOR	3.9 Kohm 1/8W						
R641	OW07-75392-50	C RESISTOR	3.9 Kohm 1/8W						
R642	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R643	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R644	OW07-75222-50	C RESISTOR	2.2 Kohm 1/8W						
R645	OW07-75222-50	C RESISTOR	2.2 Kohm 1/8W						
R648	OW07-75332-50	C RESISTOR	3.3 Kohm 1/8W						
R649	OW07-75100-50	C RESISTOR	10 ohm 1/8W						
R650	OW07-75220-50	C RESISTOR	22 ohm 1/8W						
R651	OW07-75100-50	C RESISTOR	10 ohm 1/8W						
R652	OW07-75223-50	C RESISTOR	22 Kohm 1/8W						
R653	OW07-75473-50	C RESISTOR	47 Kohm 1/8W						
R654	OW07-75473-50	C RESISTOR	47 Kohm 1/8W						
R655	OW07-75104-50	C RESISTOR	100 Kohm 1/8W						
R656	OW07-75104-50	C RESISTOR	100 Kohm 1/8W						
R657	OW07-75104-50	C RESISTOR	100 Kohm 1/8W						
R660	OW07-75103-50	C RESISTOR	10 Kohm 1/8W						
R661	OW07-75332-50	C RESISTOR	3.3 Kohm 1/8W						
L601	OW09-65035-80	FM COIL	F3.5 X 61/20.5						
L602	OW09-65035-80	FM COIL	F3.5 X 61/20.5						
L603	OW09-70101-82T	COIL	10mH						
L604	OW09-35040-80	FM COIL	F 4mm						
L605	OW09-35040-80	FM COIL	F 4mm						
CE600	OW06-72477-20	E CAPACITOR	470uF 25V						
CE601	OW06-75475-20	E CAPACITOR	4.7uF 50V						
CE602	OW06-75475-20	E CAPACITOR	4.7uF 50V						
CE603	OW06-72477-20	E CAPACITOR	470uF 25V						
CE604	OW06-72477-20	E CAPACITOR	470uF 25V						
CE611	OW06-75225-20	E CAPACITOR	2.2uF 50V						
CE612	OW06-75225-20	E CAPACITOR	2.2uF 50V						
CF602	OW09-50107-80	CERAMIC FILTER	LT10.7MS3	KB1					
CF602	OW09-50107-81	CERAMIC FILTER	LT10.7MS3	KB2					
CF604	OW09-50450-89	CERAMIC FILTER	AHCFM2-450BL						
CN601	OW20-21130-80	CONNECTOR	13P						
FMANT	OW12-00007-82	FM ANTENNA	75 ohm TC-103						
IFT601	OW08-12179-80	IFT COIL	AHK7-864364NP						
IFT602	OW08-00234-80	IFT COIL	10mm						
IFT605	OW08-71495-80	IFT COIL	7mm						
IFT606	OW08-87630-80	AM ANT COIL	0A10-876 305NP						
J601	OW12-00201-00	AM ANT SOCKET	WP2-2B						
JW603	OW07-76000-50	C RESISTOR	0 ohm 1/8W						
JW614	OW07-76000-50	C RESISTOR	0 ohm 1/8W						
JW617	OW07-74221-50T	C RESISTOR	220 ohm 1/8W						
JW625	OW07-75000-50	C RESISTOR	0 ohm 1/8W						
JW626	OW07-76000-50	C RESISTOR	0 ohm 1/8W						
JW627	OW07-76000-50	C RESISTOR	0 ohm 1/8W						
JW642	OW07-75000-50	C RESISTOR	0 ohm 1/8W						
XT601	OW04-07200-80	CRYSTAL	7.2MHz						
XXXXX	OW08-04344-83	FERRITE CORE	For CN500	KB2					
XXXXX	OW81-10001-80	SPONGE	L604 L605(x2)						
XXXXX	OW37-00002-80	EYELET	for FM ANT						

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	OW88-01002-05	INST BOOK	LVT1251-007A ENG SPA POR	
	A 2	OWRM-SMXKB1U	REMOTE UNIT		KB1
	A 2	OWRM-SMXKB2U	REMOTE UNIT		KB2
	A 3	OW29-21400-80	FM ANT		
	A 4	OW23-04910-81	AM LOOP ANT		
	A 5	-----	BATTERY	(x2)	
△	A 6	OW97-02755-80	AC PLUG ADAPTOR		
	A 7	MXKB1UW-SPBOX-L	SPEAKER BOX L	OW00-01001-10	KB1
	A 7	MXKB2UW-SPBOX-L	SPEAKER BOX L	OW00-01002-03	KB2
	A 8	MXKB1UW-SPBOX-R	SPEAKER BOX R	OW00-01001-10	KB1
	A 8	MXKB2UW-SPBOX-R	SPEAKER BOX R	OW00-01002-03	KB2
	P 1	OW85-00025-81A	POLY BAG		
	P 2	OW85-90710-84	POLY BAG		
	P 3	OW81-01001-04	SHEET SPONGE		KB1
	P 3	OW81-01001-03	SHEET SPONGE		KB2
	P 4	OW86-01001-01	POLYFOAM	RIGHT	
	P 5	OW85-92434-40	POLY BAG		
	P 6	OW85-91014-82	POLY BAG		
	P 7	OW86-01001-00	POLYFOAM	LEFT	
	P 8	OW89-01002-05	CARTON BOX		KB1
	P 8	OW89-01002-07	CARTON BOX		KB2