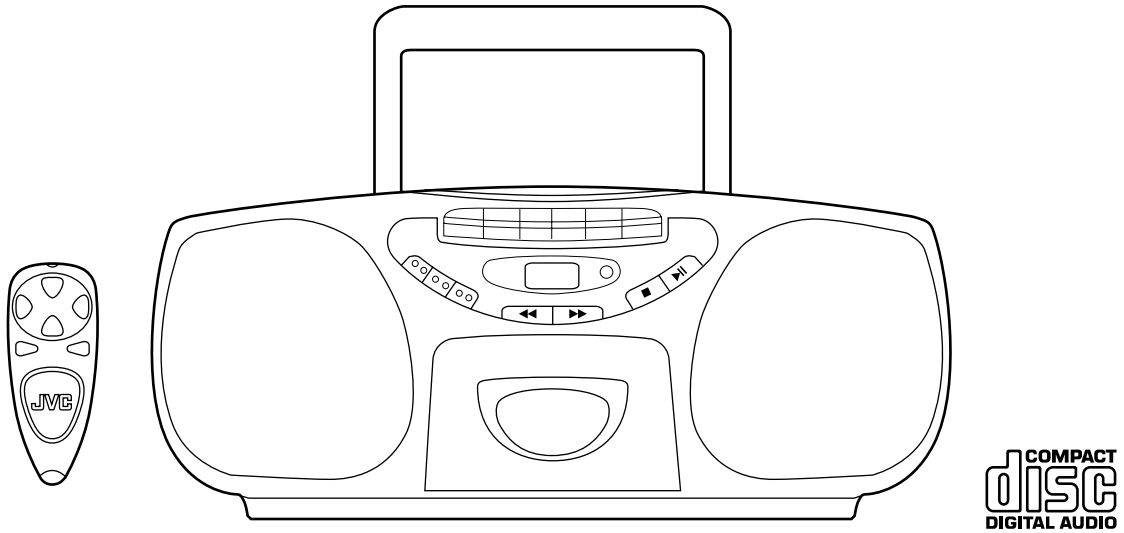
JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

RC-BX30

Area suffix
UJ ---------- U.S.Military

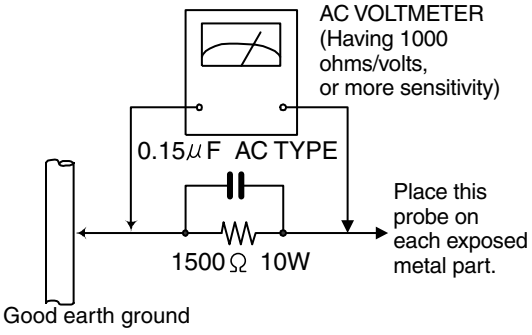


Contents

No.21171
Dec. 2002

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.

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 "⚠" mark nearby are critical for safety.
(This regulation does not correspond to J and C version.)

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

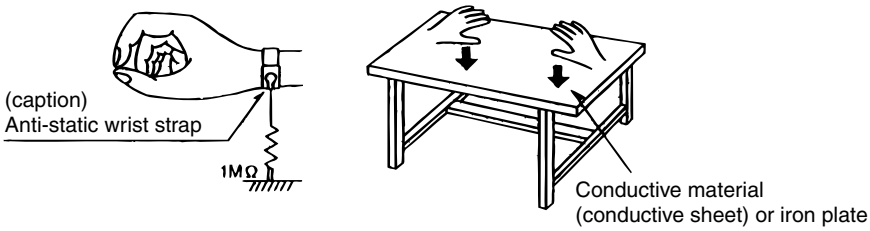
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players.
Be careful to use proper grounding in the area where repairs are being performed.

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 tester's internal power source can easily destroy the laser diode.

4. Handling the traverse unit (optical pickup)

1. Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.

2. Remove solder of the short land on the flexible wire 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.

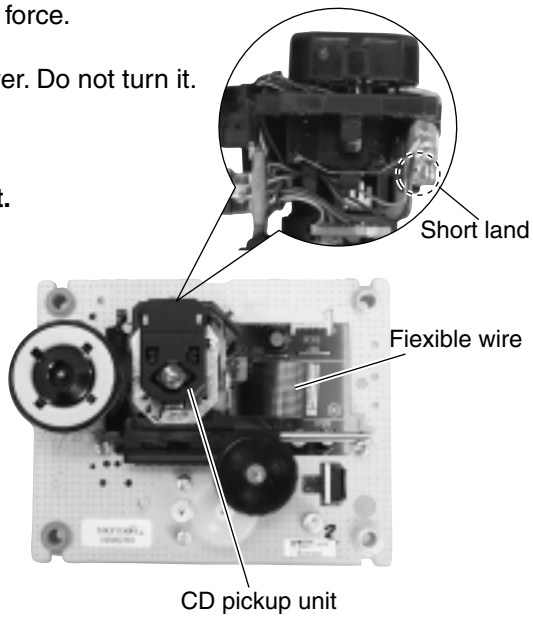
3. Handle the flexible wire carefully as it may break when subjected to strong force.

4. It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

5. Attention when traverse unit is decomposed

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

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



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 laserradiation and is equipped with safety switches whichprevent emission of radiation when the drawer is open and the safety interlocks have failed or are de feated. 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.**

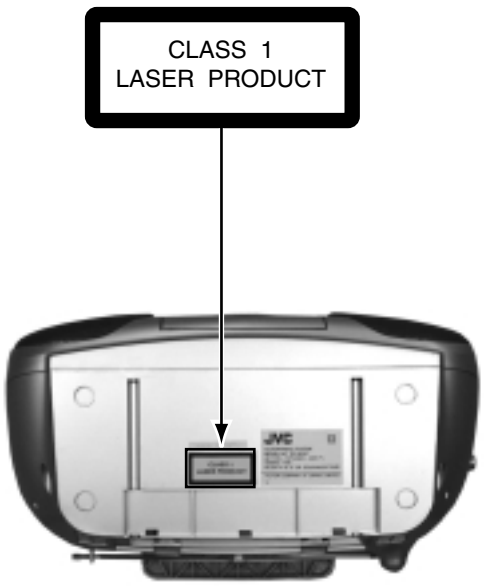
VARNING : Osynlig laserstrålning när denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgåudsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning,når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS



Disassembly method

<Main body section>

■ Removing the handle (See Fig. 1.)

1. Open the CD door.

2. Lift the handle slightly.

3. While pressing the claws **a** of the rear cabinet assembly in the direction of the arrow **1**, slide the handle in the direction of the arrow **2**.

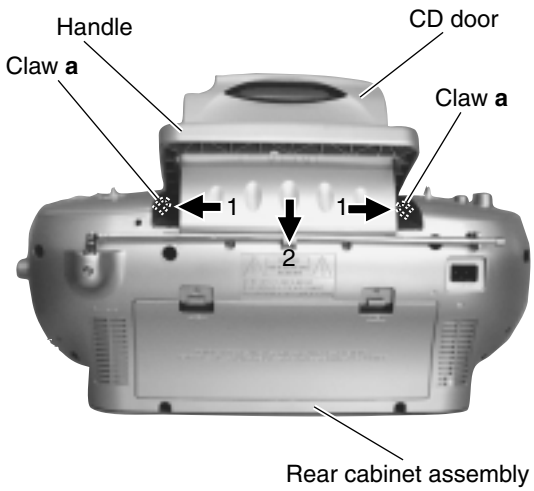


Fig.1

■ Removing the front cabinet assembly and rear cabinet assembly

(See Figs. 2 to 4.)

1. Remove the eight screws **A** retaining the front cabinet and rear cabinet assemblies from the rear of the main body. (See Fig.2.)

2. Open the cassette door. (See Fig.3.)

3. Slide the lower part of the front cabinet assembly slightly in the direction of the arrow **1**. (See Fig.3.)

4. While removing the front cabinet assembly from the cassette knobs and remove it in the upward direction **2**. (See Fig.3.)

5. Disconnect the speaker wire from the connector CN401 on the main board. (See Fig.4.)

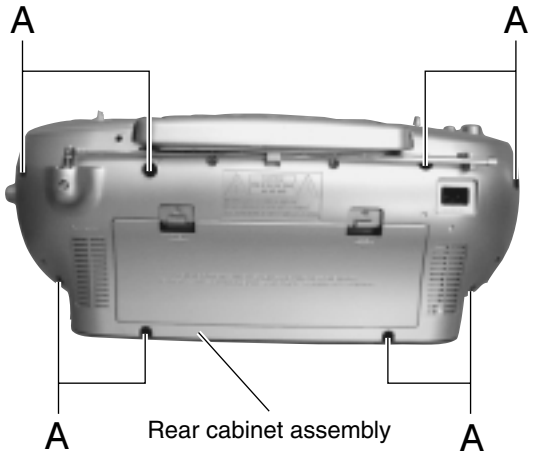


Fig.2

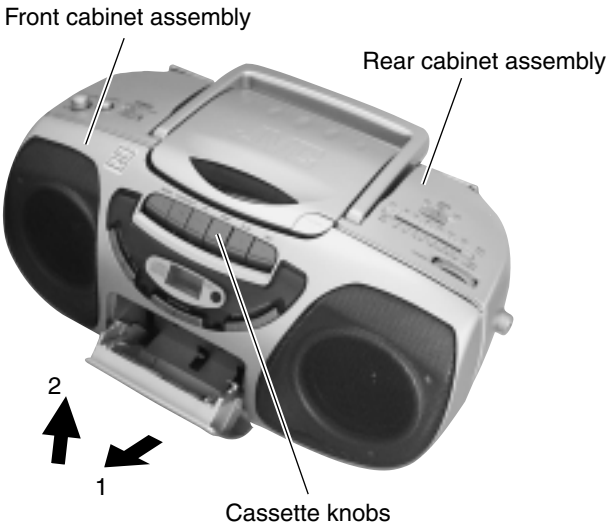


Fig.3

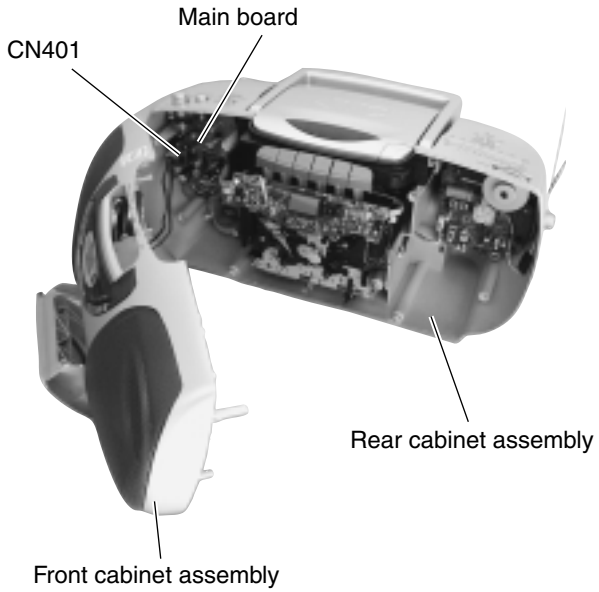


Fig.4

<Front cabinet assembly section>

- Prior to performing the following procedures, remove the front cabinet assembly from the rear cabinet assembly.

■ Removing the right and left speaker assemblies (See Fig. 5.)

1. From the inside of the front cabinet assembly, remove the six screws **B** retaining the right and left speaker assemblies.

2. Remove the solders from the soldered sections **b** of the right and left speaker assemblies, remove the speaker wires.

3. Take out the right and left speaker assemblies.

[Note] · When attaching the screws B, apply a locking agent to the screws B.

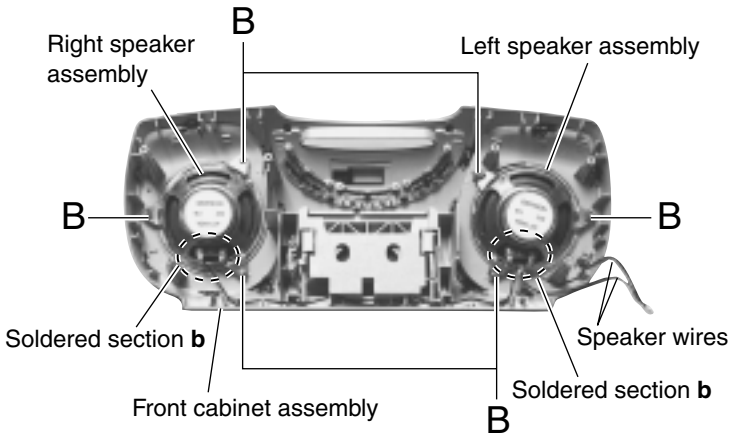


Fig.5

■ Removing the cassette door gear assembly (See Fig. 6.)

1. From the inside of the front cabinet assembly, remove the two screws **C** retaining the cassette door gear assembly.

2. Take out the cassette door gear assembly.

[Note] · When attaching the screws C, apply a locking agent to the screws C.

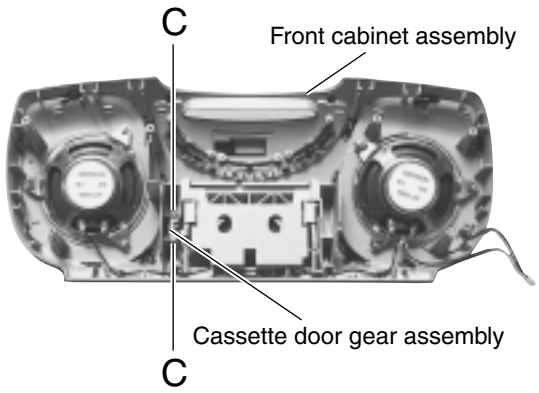


Fig.6

■ Removing the cassette door (See Fig. 7.)

- Prior to performing the following procedures, remove the cassette door gear assembly.

1. While pressing the section **c** of the cassette door in the direction of the arrow, remove the boss **d** of the cassette door from the section **e** of the front cabinet assembly.

2. Disengage the boss **f** of the cassette door from the section **g** of the front cabinet assembly.

[Note] · Be sure to hang the spring to the section h before attaching the cassette door to the front cabinet assembly.

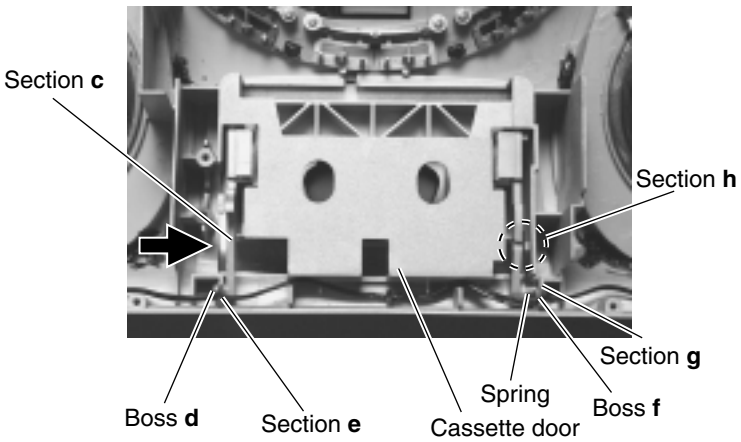


Fig.7

<Rear cabinet assembly section>

- Prior to performing the following procedures, remove the front cabinet assembly from the rear cabinet assembly.

■ Removing the tuner board

(See Figs. 8 to 10.)

1. From the rear side of the rear cabinet assembly, remove the screw **D** retaining the FM antenna. (See Fig.8.)
2. Pull out the band and fine tune knobs from the tuner board. (See Fig.9.)
3. Disconnect the wire from the connector CN101 on the tuner board. (See Fig.9.)
4. Remove the screw **E** and two screws **F** retaining the tuner board. (See Fig.9.)
5. Take out the tuner board, then remove the screw **G** retaining the antenna connector plate. (See Fig.10.)

[Note] · When attaching the screws G, apply a locking agent to the screws G.

■ Removing the main board

(See Figs. 9 and 11.)

1. Disconnect the wire from the connector CN101 on the tuner board. (See Fig.9.)
2. Pull out the volume, DBB and function knobs from the main board. (See Fig.11.)
3. Disconnect the wires from the connectors CN302, CN303 and CN501 on the main board. (See Fig.11.)
4. Remove the solders from the soldered section **i** connecting the wires to the main board. (See Fig.11.)
5. Remove the three screws **H** retaining the main board. (See Fig.11.)

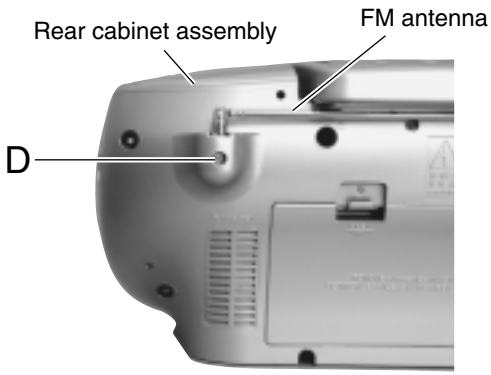


Fig.8

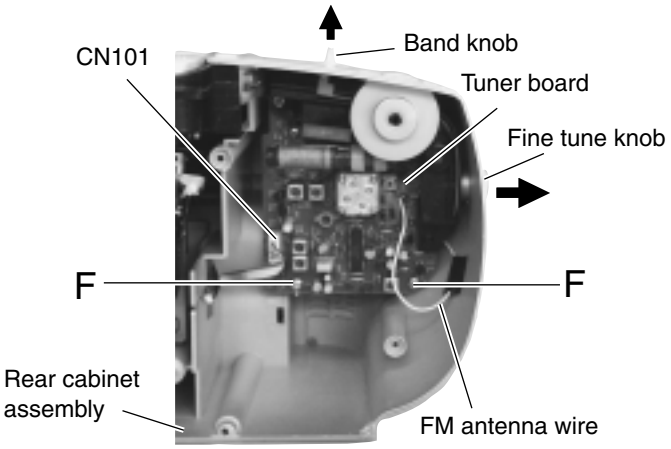


Fig.9

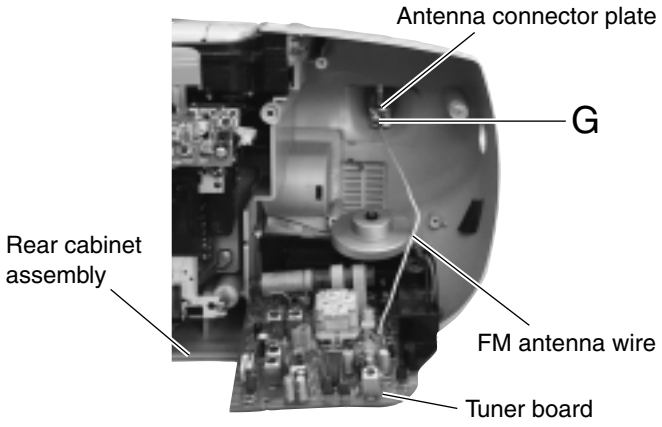


Fig.10

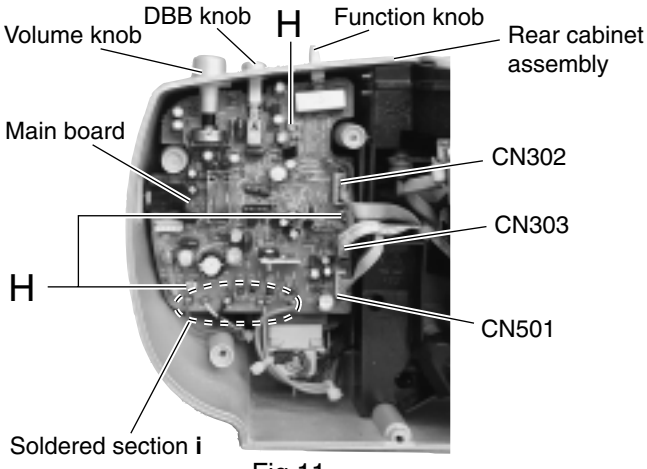


Fig.11

■ Removing the cassette deck/CD mechanism assembly

(See Figs.12 and 13.)

1. From the rear side of the rear cabinet assembly, remove the two screws **J** retaining the cassette deck/CD mechanism assembly. (See Fig.12.)

2. Disconnect the wires from the connectors CN302, CN303 and CN501 on the main board. (See Fig.13.)

3. Remove the two screws **K** retaining the cassette deck/CD mechanism assembly. (See Fig.13.)

[Note] · When attaching the screws K, apply a locking agent to the screws K.

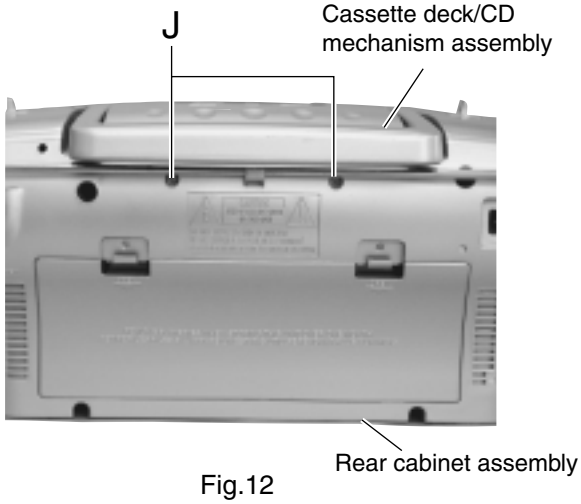


Fig.12

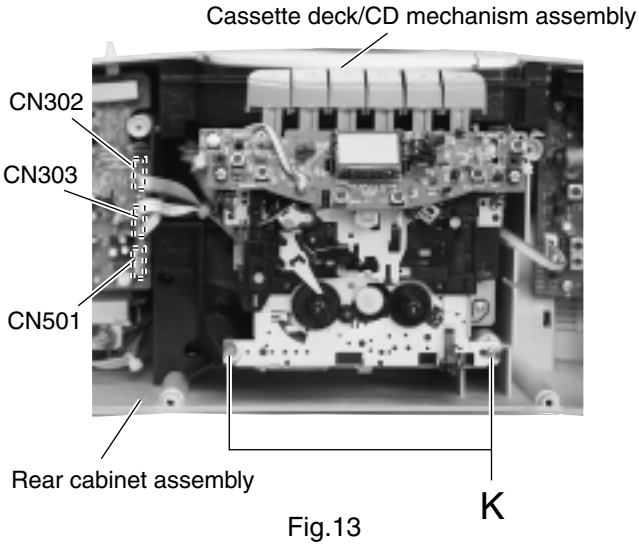


Fig.13

■ Removing the display board

(See Figs.14 and 15.)

1. From the bottom side of the CD mechanism assembly, remove the tie bands bundling the wires from the CD mechanism assembly. (See Fig.14.)

2. Disconnect the wires from the connectors BC01, BC02 and BC03 on the CD servo board. (See Fig.14.)

3. Remove the solders from the soldered section **j** connecting the wires to the micro switch board. (See Fig.14.)

4. Remove the two screws **L** retaining the display board. (See Fig.15.)

5. Press the claws **k** in the direction of the arrow, remove the display board. (See Fig.15.)

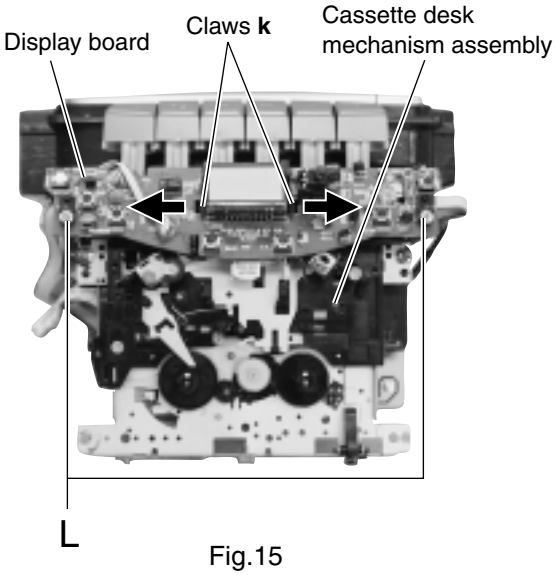


Fig.15

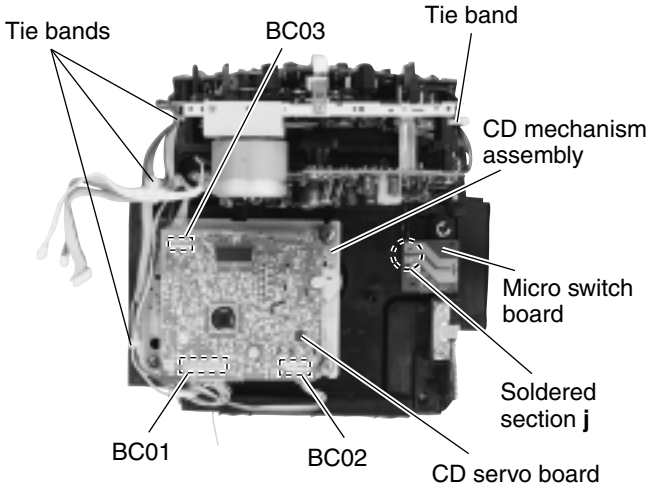


Fig.14

■ Removing the cassette board

(See Fig. 16.)

1. From the back side of the cassette deck mechanism assembly, remove the tie band bundling the wires.

2. Remove the solders from the soldered section **m** connecting the wires of the capstan motor and leaf switch.

3. Remove the four screws **M** retaining the cassette board.

4. From the reverse side of the cassette board, remove the solders from the soldered section **n** connecting the wires of the REC/PB head.

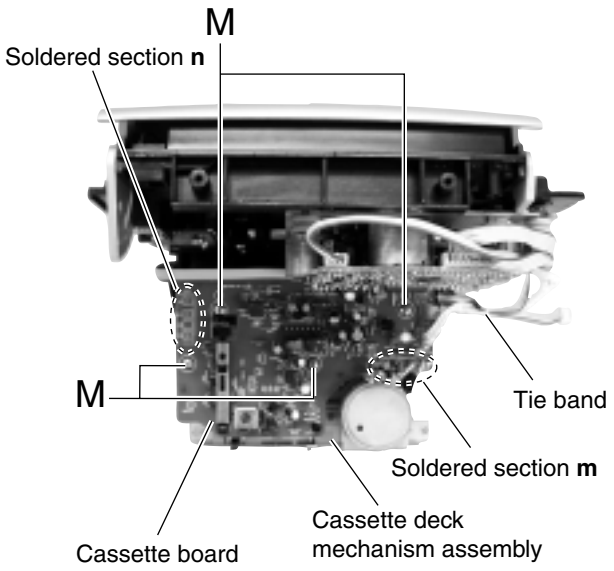


Fig.16

■ Removing the cassette deck mechanism assembly

(See Fig. 17.)

- Prior to performing the following procedures, remove the display board.

1. Remove the solders from the soldered section **p** connecting the wires of the leaf switch.

2. Remove the solders from the soldered section **q** connecting the wires of the REC/PB head.

3. Remove the two screws **N** retaining the cassette deck mechanism assembly.

[Note] · When attaching the screws N, apply a locking agent to the screws N.

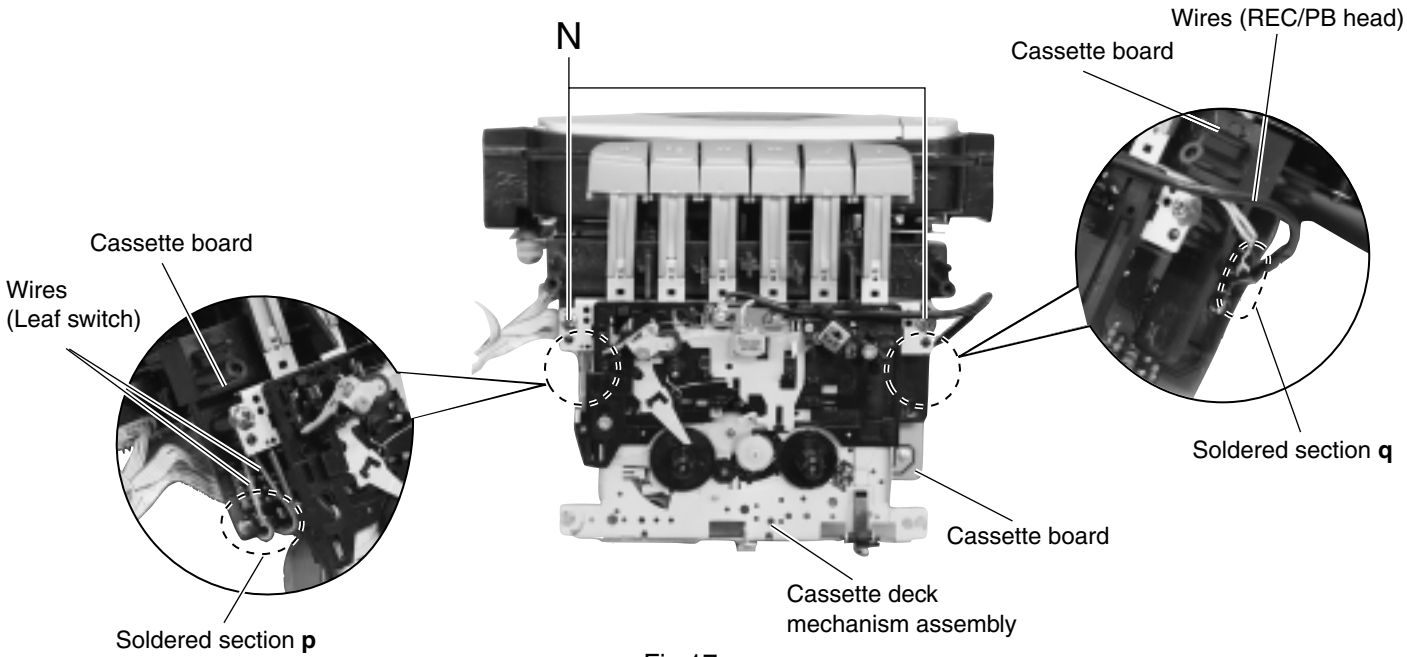


Fig.17

■ Removing the power transformer

(See Figs.18 to 20.)

- Prior to performing the following procedures, remove the main board and cassette deck/CD mechanism assembly.

1. From the rear side of the rear cabinet assembly, remove the battery door. (See Fig.18.)
2. Remove the two screws **P** retaining the voltage selector switch. (See Fig.18.)
3. From the inside of the rear cabinet assembly, remove the three screws **Q** retaining the cassette deck bracket. (See Fig.19.)
4. Remove the solders from the soldered section **r** and **s** connecting the wires(red and black). (See Fig.19.)
5. Remove the two screws **R** retaining the power transformer. (See Fig.20.)
6. Remove the two screws **S** retaining the socket cover. (See Fig.20.)
7. Take out the power transformer together the socket cover and voltage selector switch.

[Note] - **When attaching the screws P and R, apply a locking agent to the screws P and R.**

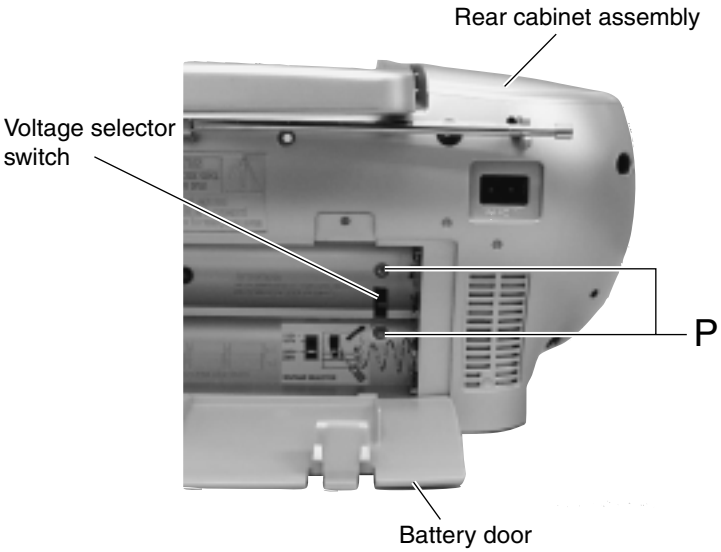


Fig.18

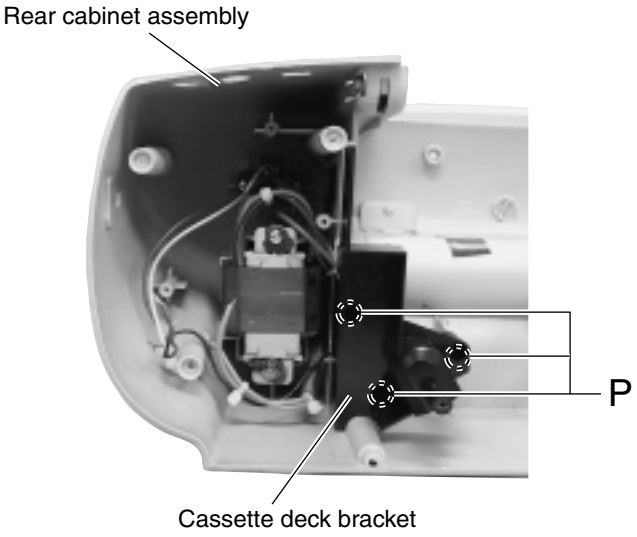


Fig.19

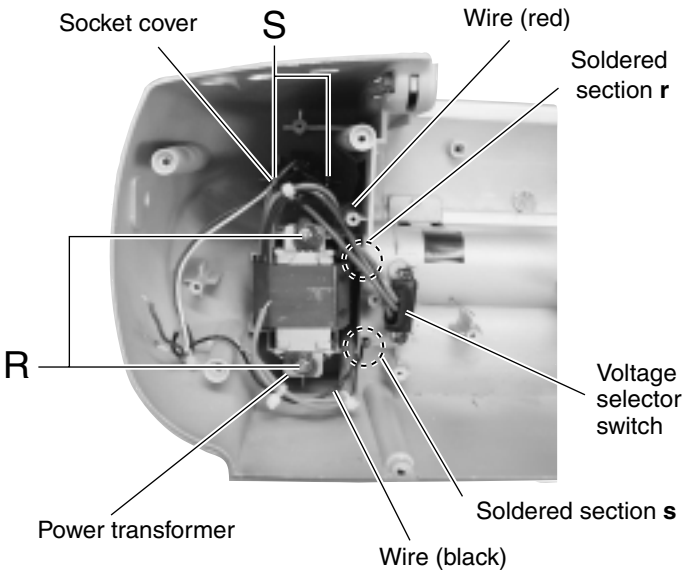


Fig.20

■ Removing the CD mechanism assembly (See Fig. 21.)

- Prior to performing the following procedures, remove the cassette deck/CD mechanism assembly. (See Figs.12 and 13.)

1. From the bottom side of the cassette deck/CD mechanism assembly, disconnect the wires from the connectors BC01, BC02 and BC03 on the CD servo board.

2. Remove the four screws **T** retaining the CD mechanism assembly.

[Note] - **When replacing the CD mechanism assembly, be sure not to mistake the positions of the pink and orange rubbers.**

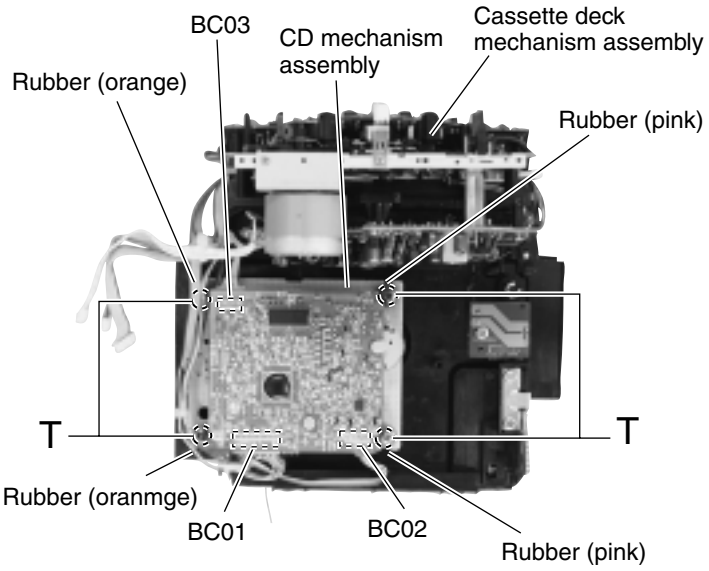


Fig.21

■ Removing the micro switch board (See Fig. 22.)

1. From the bottom side of the cassette deck/CD mechanism assembly, remove the solders from the soldered section **t** connecting the wires.

2. Remove the screw **U** retaining the micro switch board.

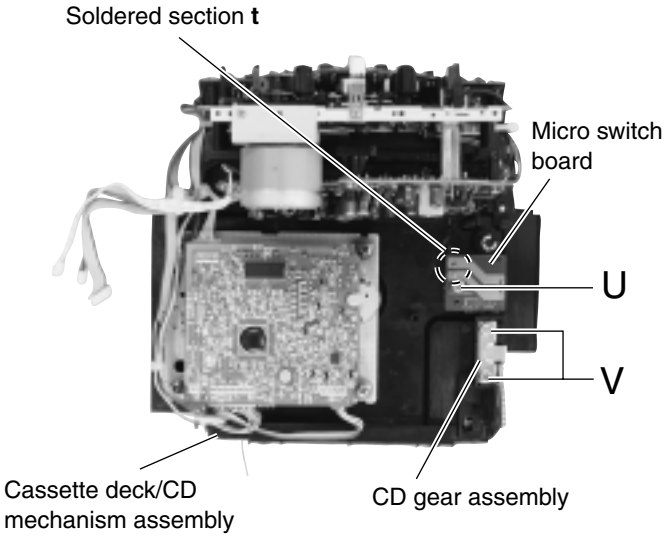


Fig.22

■ Removing the CD gear assembly (See Fig. 23.)

1. From the bottom side of the cassette deck/CD mechanism assembly, remove the two screws **V** retaining the CD gear assembly.

2. Take out the CD gear assembly.

■ Removing the CD door (See Fig. 23.)

1. Open the CD door.

2. While pressing the arm section **u** of the CD door in the direction of the arrow, remove the arm section **u**.

3. Disengage the arm section **v** of the CD door, remove the CD door.

[Note] - **When attaching the CD door, hang the spring to the section w of the CD door.**

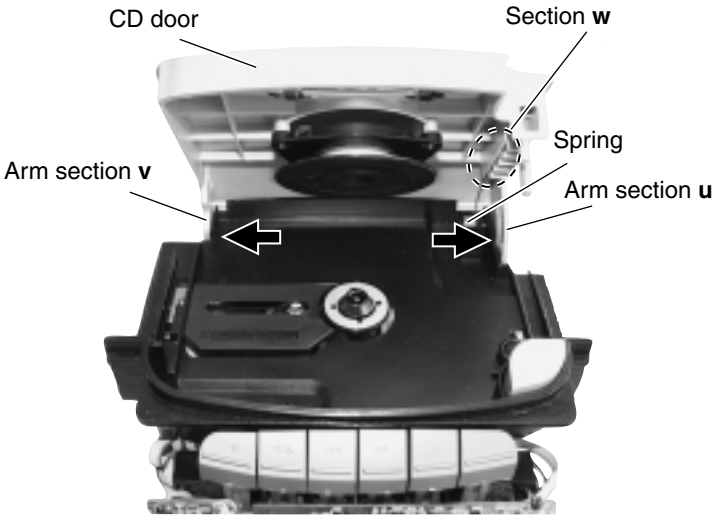


Fig.23

<CD mechanism assembly section>

■ Removing the CD pickup unit

(See Figs. 1 to 3.)

- Prior to performing the following procedures, remove the CD mechanism assembly.

1. Remove the three screws **A** retaining the CD pickup cover. (See Fig.1.)

2. Remove the slit washer retaining the feed middle gear and take out the feed middle gear. (See Fig.2.)

3. Loosen the two screws **B** retaining the shaft and pull out the shaft in the direction of the arrow. (See Fig.2.)

4. Take out the CD pickup unit.

[Caution] · **Be sure to apply the solder in order to the short land section a on the CD pickup unit before removing the flexible wire from the CD pickup unit. (See Fig.2.)**
If the flexible wire is disconnected without apply this solder, the CD pickup may be damaged.

5. From the bottom side of the CD mechanism assembly, remove the solders of the flexible wire from the soldered section **b** on the CD servo board.

[Caution] · **After re-connecting the flexible wire, be sure to remove the solder from the short land section a.**

[Note] · **In the assembly, be sure to attach the sliding spring in the correct orientation before attaching the CD pickup unit. (See Fig.2.)**

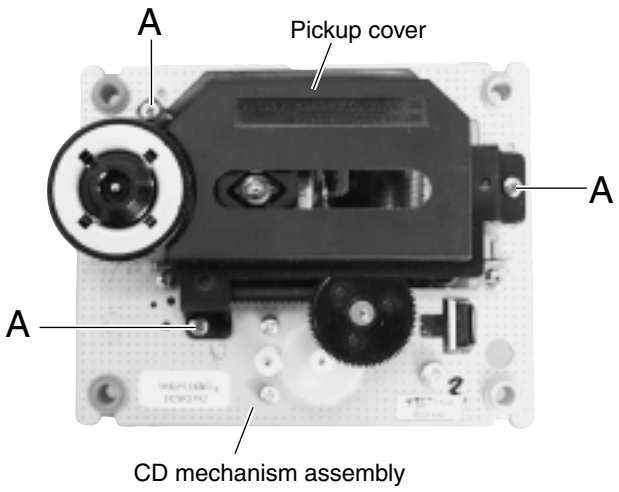


Fig.1

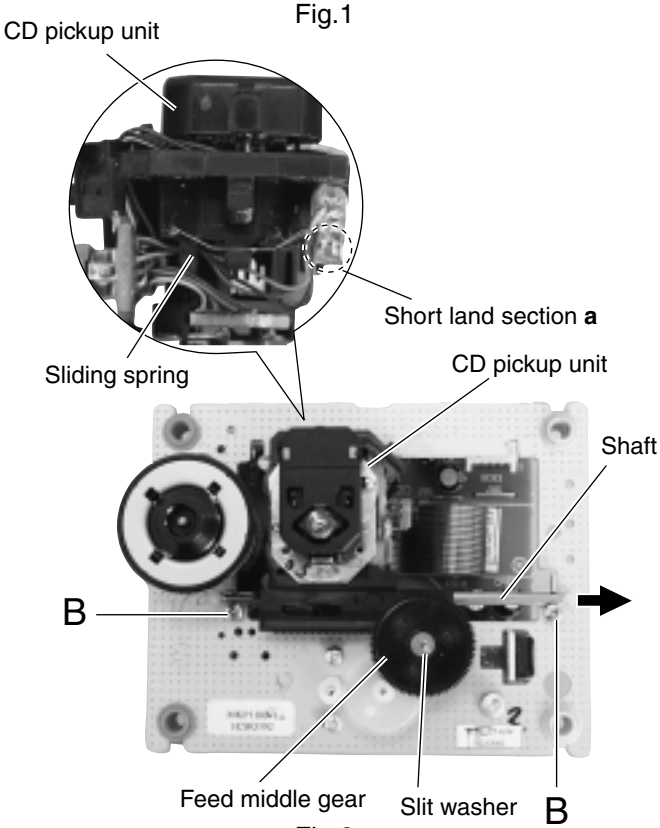


Fig.2

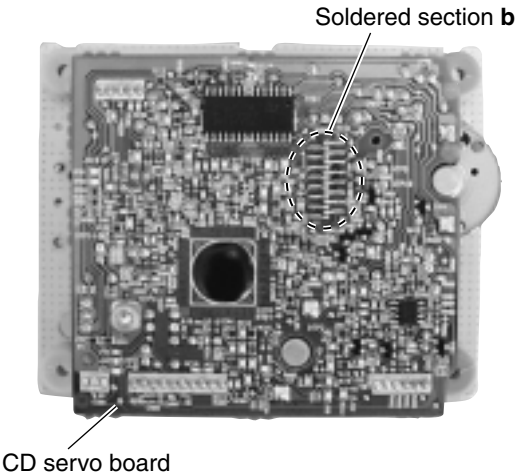


Fig.3

<Cassette deck mechanism assembly section>

- Prior to performing the following procedures, remove the cassette deck mechanism assembly from the rear cabinet assembly.
  (See Fig.17 of "Rear cabinet section" on page 1-9.)

■ Removing the capstan motor

(See Figs.1 and 2.)

1. Remove the capstan motor belt.

2. Remove the two screws **A** retaining the bracket of the capstan motor from the cassette deck mechanism assembly.

3. Remove the two screws **B** retaining the bracket from the capstan motor. (See Fig.2.)

■ Removing the leaf switch (See Fig.3.)

Pressing the claw **a** of the leaf switch in the direction of the arrow **1** and take out the leaf switch in the direction of the arrow **2**.

■ Removing the pinch roller arm assembly (See Fig.4.)

Remove the screw **C** retaining the pinch roller arm assembly and remove the pinch roller arm assembly in an upward direction.

[Note] · In the assembly, hang the notch b of the pinch roller arm assembly to the spring.

■ Removing the erase head

(See Fig.4.)

Remove the screw **D** retaining the erase head and remove the erase head in an upward direction.

■ Removing the REC/PB head

(See Fig.4.)

Remove the screw **E**, washer and screw **F** retaining the REC/PB head and remove the REC/PB head.

[Notes] · When removing or replacing the REC/PB head, perform the REC/PB head adjustment. (See "Adjustment method".)
After adjusting the REC/PB head, apply a locking agent to the screws E and F.

■ Removing the flywheel assembly

(See Figs. 4 and 5.)

1. From the bottom side of the cassette deck mechanism assembly, remove the main belt.

2. From the top side of the cassette mechanism assembly, remove the slit washer retaining the shaft of the flywheel assembly.

3. Pull out the flywheel assembly in the direction of the arrow. (See Fig.5.)

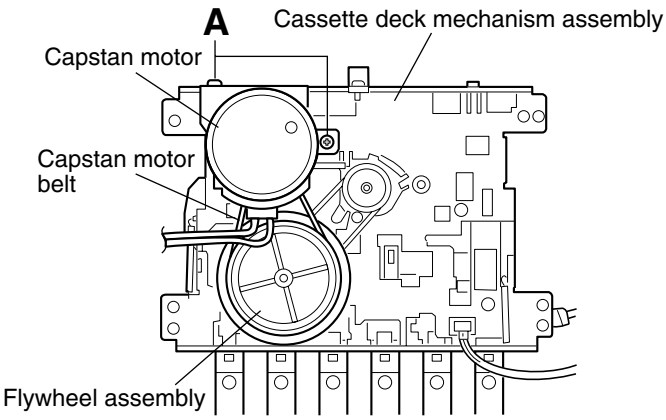


Fig.1

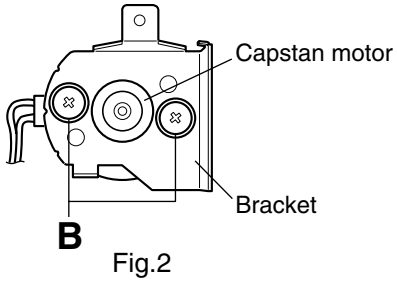


Fig.2

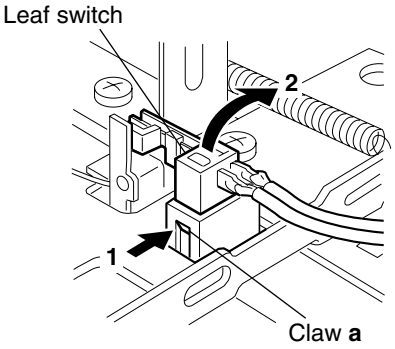


Fig.3

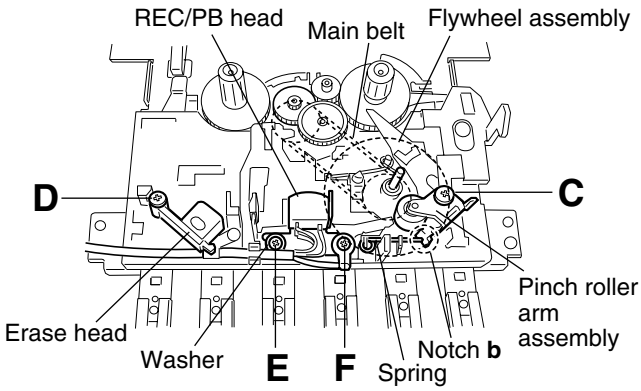


Fig.4

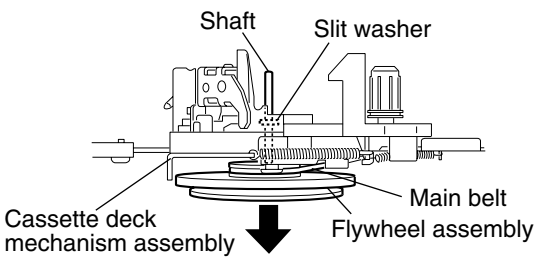


Fig.5

Adjustment method

■ Measuring instructions required for adjustment

1. AM signal generator
2. FM signal generator
3. Inter mediate frequency sweep generator
4. FM stereo signal generator
5. Low-frequency oscillator
   (oscillation frequency 50Hz-20kHz, 0dB output with 600 ohm impedance)
6. Attenuator (600 ohm impedance)
7. Electronic voltmeter
8. Distortion meter
9. Torque gauge (cassette for CTG-N)
10. Wow & flutter meter
11. Frequency counter meter
12. Test tape
    VT712 : For tape speed and wow flutter
    VT724 : For reference level
    VT702 : For playback frequency
    VT702 : For head azimuth adjustment

13. Blank tape
    TAPE I : AC-225

■ Measuring instruments

Radio section
- FM 1kHz, 22.5kHz deviation
- FM STEREO : 1kHz, 67.5kHz deviation
  pilot signal 7.5kHz
- AM : 1kHz, 30% modulation
- Reference output :
  Speaker output 0dBs (0.447V)/4 ohm
  H.phone output -10dBs (0.245V)/32 ohm
- Standard position of function switch :
  Selects FM in tuner mode
  Bass boost: OFF
  Main volume: Reference output

Amplifier section
- Reference output :
  Speaker output 0dBs (0.447V)/4 ohm
  H.phone output -10dBs (0.245V)/32 ohm
- Standard position of function switch :
  Selects TAPE mode

CD section
- CD test disc : CTS-1000

■ Measurement conditions

Power supply voltage
AC110V-127V/210V-230V (60Hz/50Hz)

■ Cassette amplifier section

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
Head azimuth adjustment	・Test tape: VT702 (8kHz) ・Signal output terminal: PHONES (with 32 ohm load)	1.Play back the test tape VT702 (8kHz). 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 (+2dB-2dB) of the maximum output level in the FWD and REV operations. 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 maladjusted, correct it with the head azimuth adjusting screw in the FWD and REV operations alternately.	・Output level: Within (+2dB-2dB) of maximum output level ・Phase difference R and L channels: Minimum	Head azimuth adjusting screw (To be used only after head replacement) See Fig.1 on page 1-16.
Tape speed and wow/flutter check and adjustment	・Test tape: VT712 (3kHz) ・Signal output terminal: PHONES (with 32 ohm load)	1.Play back the test tape VT712 (3kHz) by the end portion. 2.Connect a frequency counter and check that it reads between 2940 and 3090Hz. If not, adjust the frequency with the motor semifixed resistor. 3.Check that the wow/flutter is within 0.38% (unweighted).	・2940 to 3090Hz ・Within 0.38% (unweighted)	・Tape speed: Motor semifixed resistor See Fig.2 on page 1-16. ・Check only
PB frequency response check	・Test tape: VT702 ・Signal output terminal: PHONES (with 32 ohm load)	Play back the test tape VT702 while con-firming that deviation between the 1kHz signal and 8kHz signal should be 0(+3dB~-6)dB.	・Deviation between 1kHz and 8kHz: 0(+3dB~-6)dB	
Bias frequency check	・Tape: Normal ・Signal output terminal: Cassette REC./PLAY HEAD	Set the FUNCTION switch to TAPE and the record and play tape mechanism, check to see if the frequency at the measuring point is (80kHz+2kHz -2kHz) if not adjust L201 until the frequency counter indicates (80kHz+2kHz-2kHz).		L201 See Fig.4 on page 1-16.
REC and PB frequency response adjustment	・Test tape: AC225 ・Signal input: FM22.5 DEV 60dBu with emphasis ・Signal output terminal: PHONES (with 32 ohm load)	Set the FUNCTION switch to the radio position, set the BAND switch to the FM position, and record the reference 1kHz signal and 8kHz signal alternately repeatedly. While playing back the recorded signal differ from that of the 1kHz signal by within 0 (+3~ -6)dB.	・Level difference between REC and PB: Within 0 (+3~-6)dB	

■ Tuner section

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
MW/SW IF adjustment	・Signal input: Loop ANTENNA ・Signal output: IC101 pin19	1.Set the intermediate frequency sweep generator to MW/SW 455kHz. 2.Adjust the T102 for maximum and center output.		・T102 See Fig.3 on page 1-16.
FM IF adjustment	・Signal input: FMANT, FMGND ・Signal output: IC101 pin19	1.Set the intermediate frequency sweep generator to FM (10.7MHz). 2.Adjust the T101, T103 for maximum and center output.		・T101, T103 See Fig.3 on page 1-16.
SW tracking adjustment	・Signal input: Dummy antenna ANT GND ・Signal output: PHONES (with 32 ohm load)	1.Set the dial at low end, set the S/G at (5.75MHz +0.4MHz-0.4MHz). Adjust the L104, check to see the output is maximum. 2.Set the dial at high end, set the S/G at (17.8MHz +0.5MHz-0.5MHz). Adjust the VC101, check to see the output is maximum. 3.Set the dial while receiving a 7MHz signal from S/G at maximum. Adjust the L101, check to see the output is maximum.		・L104 ・VC101 ・L101 See Fig.3 on page 1-16.

■ Tuner section

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
FM tracking adjustment	・Signal input: Dummy antenna ANT GND ・Signal output: PHONES (with 32 ohm load)	1.Set the dial at low end, set the FM signal generator at (87.35MHz+0.2MHz-0.2MHz). Adjust the L107, check to see the output is maximum. 2.Set the dial at high end, set the FM signal generator at (108.25MHz+0.25MHz-0.25MHz). Adjust the PVC11-C2, check to see the output is maximum. 3.Set the dial while receiving a 90MHz signal from an FM signal generator at maximum. Adjust the L106 for maximum output. 4.Set the dial while receiving a 106MHz signal from an FM signal generator at maximum. Adjust the PVC11 -C1 for maximum output. 5.Repeat the adjustment of the above steps 3 and 4.		・L107 ・PVC11-C2 ・L106 ・PVC11-C1 See Fig.3 on page 1-16.
MW tracking adjustment	・Signal input: Loop antenna ・Signal output: PHONES (with 32 ohm load)	1.Set the dial at low end, set the S/G at (515kHz+5kHz -5kz). Adjust the L105, check to see the output is maximum. 2.Set the dial at high end, set the S/G at (1620kHz +15kHz-15kHz). Adjust the PVC11-C4, check to see the output is maximum. 3.Set the dial while receiving a 600kHz signal from an AM signal generator at maximum. Adjust the AM ANT COIL L102 for maximum output. 4.Set the dial while receiving a 1400kHz signal from an AM signal generator at maximum. Adjust the PVC11 -C3 for maximum output. 5.Repeat the adjustment of the above steps 3 and 4.		・L105 ・PVC11-C4 ・L102 ・PVC11-C3 See Fig.3 on page 1-16.

■ Location of adjusting parts

・Cassette mechanism section

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

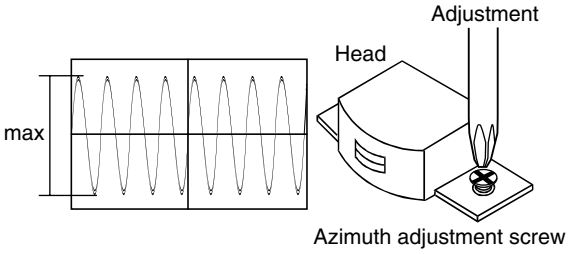


Fig.1 Head output signal

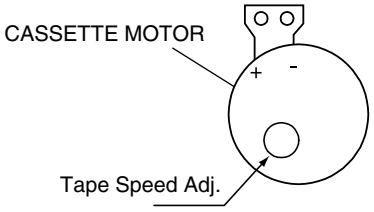


Fig.2

・Tuner board

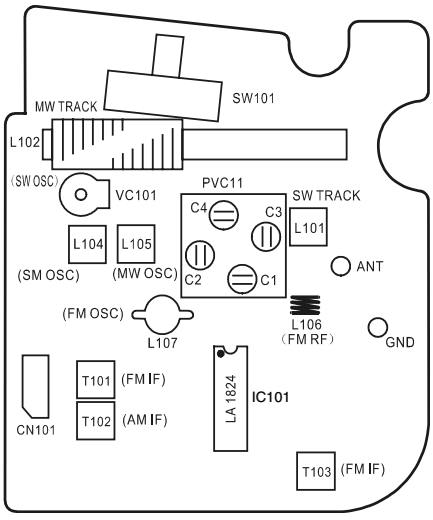


Fig.3

・Cassette board

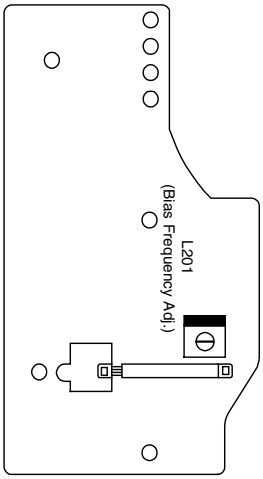
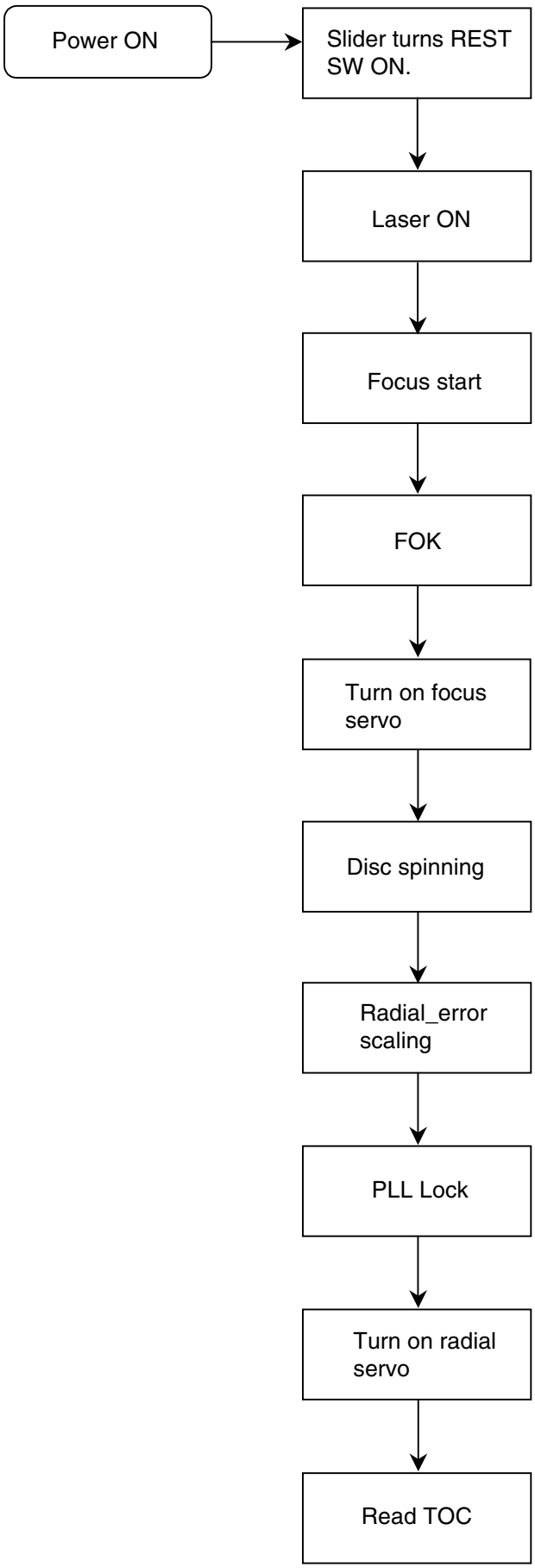


Fig.4

Trouble shooting

Circuit	Symptom	Cause	Remedy
General	No sound	Speakers are not connected.	Check the speaker connection
		Wrong function is selected.	Set switch to the proper position.
		Defective volume control	Set the volume control to a proper sound level.
		Defective earphone jack	Replace the earphone jack.
MW	No sound, weak sound (Low sensitivity)	Improper location of unit	Rotate or reposition the unit.
		Defect in IFT102	Check resistance, voltage and current. Replace as needed.
		Defect MW antenna coil L102 or oscilloscope coil L105	Replace if necessary.
		Intermediate frequency tuning faulty	Readjust (see "Adjustment method").
		MW tracking faulty	Readjust (see "Adjustment method").
		Defective IC101	Check voltages. Replace if necessary.
		Defective Q101, Q102, Q103, Q104, Q105	Check voltages. Replace if necessary.
SW	No sound, weak sound (Low sensitivity)	SW antenna not connected	Connect the built-in external antenna
		Defect in IFT102	Check resistance, voltage and current. Replace as needed.
		Defect SW antenna coil or oscilloscope coil	Replace if necessary.
		Intermediate frequency tuning faulty	Readjust (see "Adjustment method").
		SW tracking faulty	Readjust (see "Adjustment method").
		Defective IC101	Check voltages. Replace if necessary.
		Defective Q101, Q102, Q103, Q104, Q105	Check voltages. Replace if necessary.
FM	No sound, weak sound (Low sensitivity)	FM antenna not connected	Connect the built-in external antenna
		Defective band selector switch	Replace or repair the switch
		Defective IC101	Check voltages. Replace if necessary.
		Intermediate frequency tuning faulty	Readjust (see "Adjustment method").
		Poor contact in FM antenna circuit	Resolder or repair as required.
Tape	No sound/recording, unsteady tape sound, weak sound	Dirty capstan or head	Clean the capstan or head with alcohol.
		Irregular cassette tape winding	Replace tape.
		Defective IC201	Check voltages. Replace if necessary.
		Cassette erasure prevention tabs broken out	Replace tape or cover tab openings with adhesive tape.
CD	Cannot read the table of content. No display, no sound	Disc is inserted upside down.	Insert disc correctly.
		Disc is dirty.	Wipe clean with a soft cloth.
		Disc is scratched.	Use a new disc.
		Disc is seriously warped.	Use a new disc.
		A non-standard disc has been inserted.	Use only a brand name disc.
		Moisture has formed inside the CD deck.	Wait about 20 to 30 minutes.
		Defect in the servo control board	Replace or repair as required.
		Defect in the CD pickup mechanism	Replace as required.

Flow of functional operation until TOC read

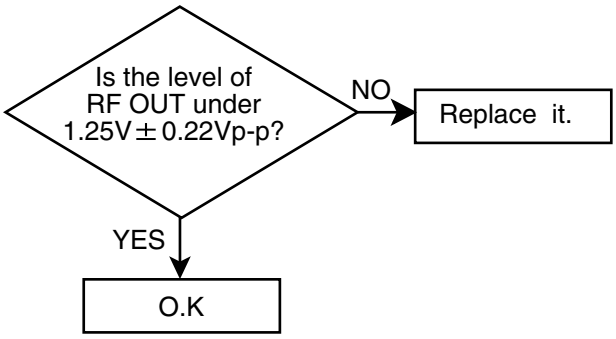


Maintenance of laser pickup

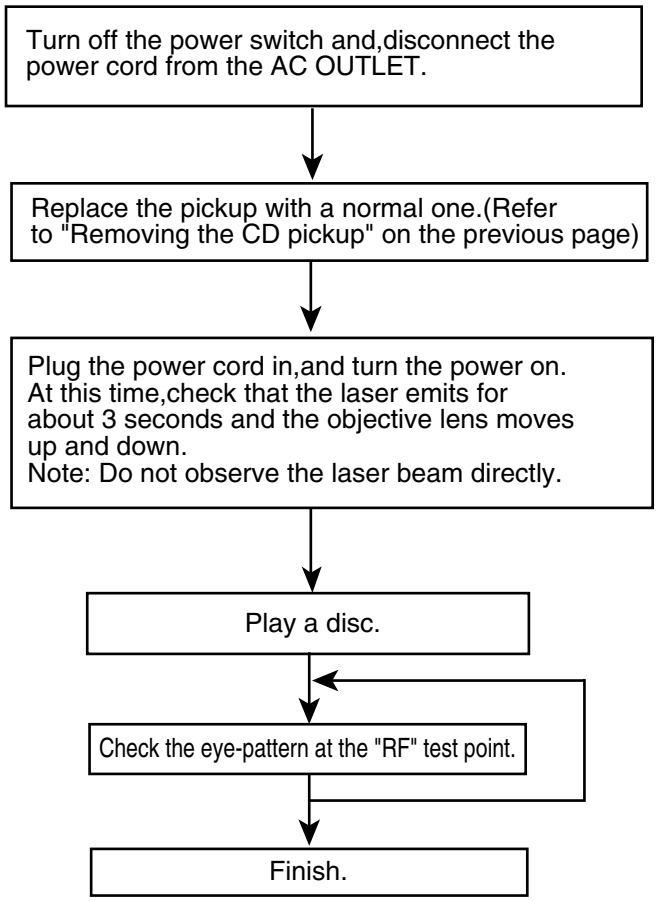
(1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(2) Life of the laser diode
When the life of the laser diode has expired, the following symptoms will appear.

The level of RF output (EFM output:amplitude of eye pattern) will below.



Replacement of laser pickup

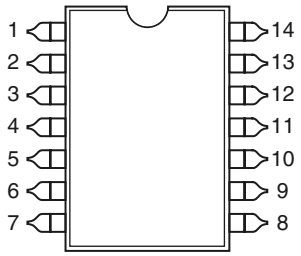


(3) Semi-fixed resistor on the APC PC board
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power.
Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.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

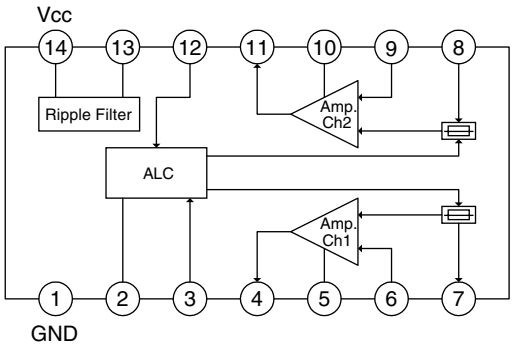
Description of major ICs

■ AN7312 (IC201) : Dual recording/Playback pre-amplifier circuit with ALC

1. Terminal layout



2. Block diagram

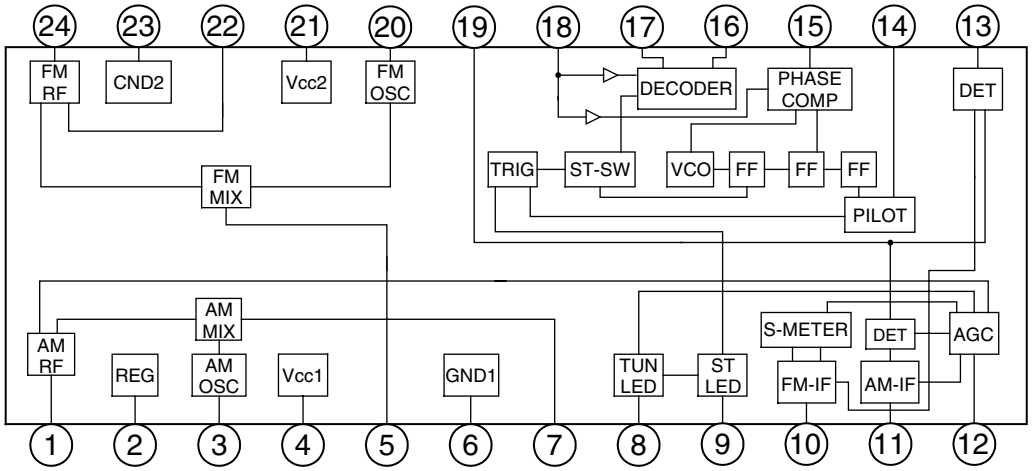


3. Pin function

Pin No.	Symbol	I/O	Function
1	GND	-	GND
2	ALC time constant	-	ALC time constant by resistance and capacitor
3	ALC input Ch.1	I	Right channel ALC input
4	Output Ch.1	O	Right channel output
5	Phase compensation Ch.1	-	Not connect
6	N.E.B. Ch.1	I	Right channel negative feed back input
7	Input Ch.1	I	Right channel signal input
8	Input Ch.2	I	Left channel signal input
9	N.E.B. Ch.2	I	Left channel negative feed back input
10	Phase compensation Ch.2	-	Not connect
11	Output Ch.2	O	Left channel output
12	ALC input Ch.2	I	Left channel ALC input
13	Ripple filter	-	Ripple filter
14	Vcc	-	Power supply

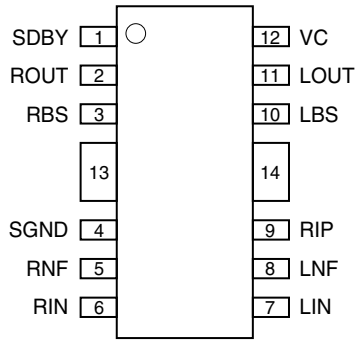
■ LA1824 (IC101) : Tuner

1. Terminal layout & Block diagram

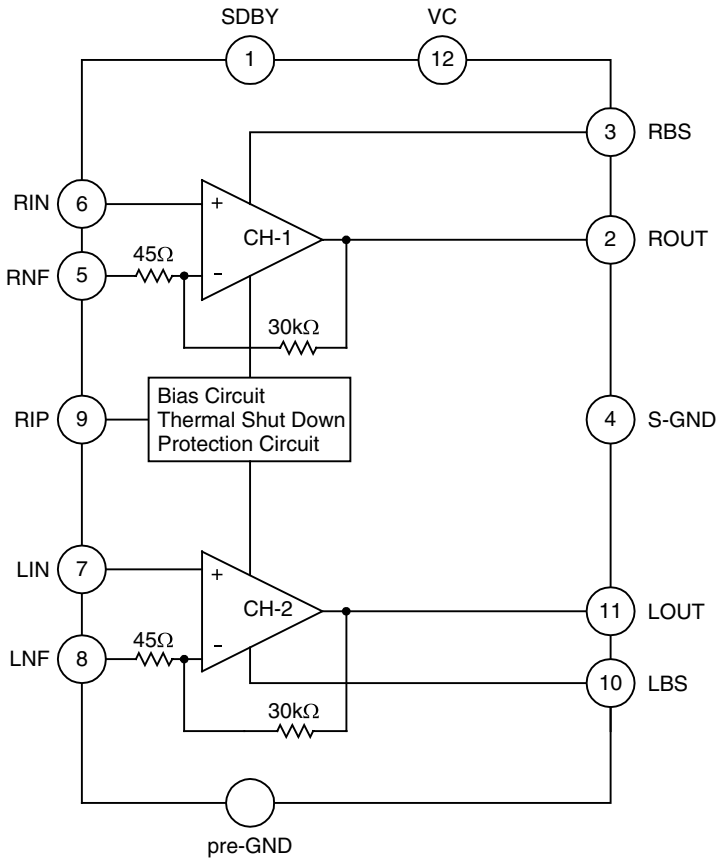


■ TA8227P (IC401) : Amplifier

1. Terminal layout

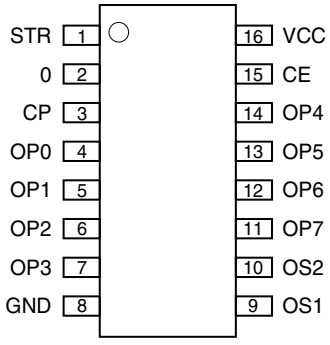


2. Block diagram

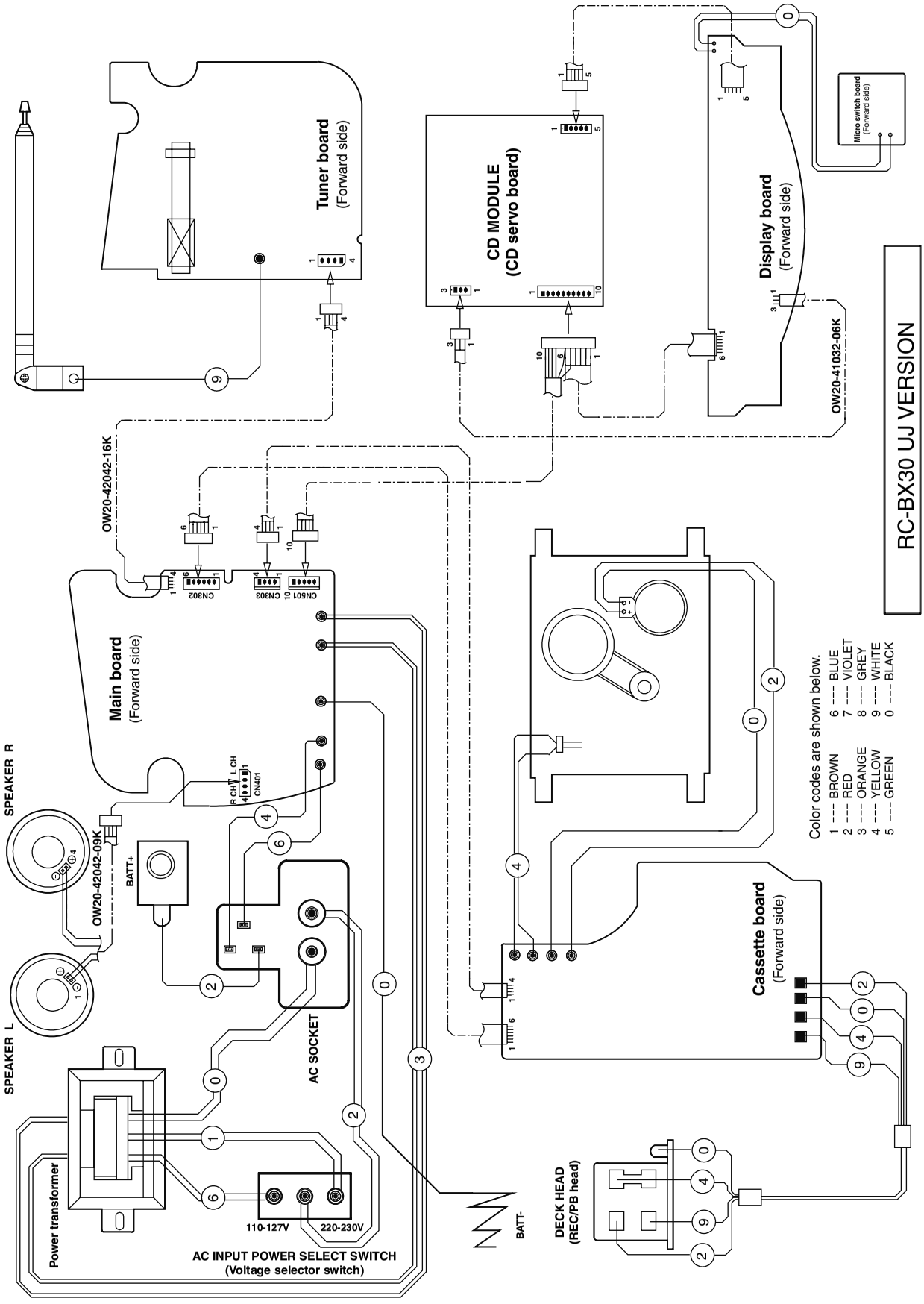


■ MC14094 (IC601) : XXXXX

1. Terminal layout



Wiring connection



JVC

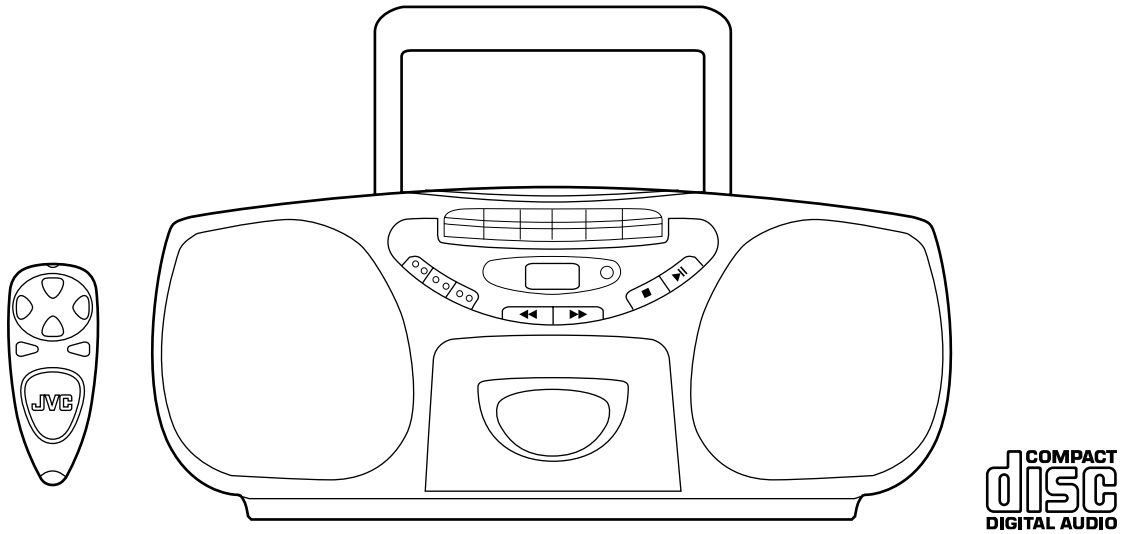
SCHEMATIC DIAGRAMS

CD PORTABLE SYSTEM

RC-BX30

CD-ROM No.SML200212

Area suffix
UJ ---------- U.S.Military

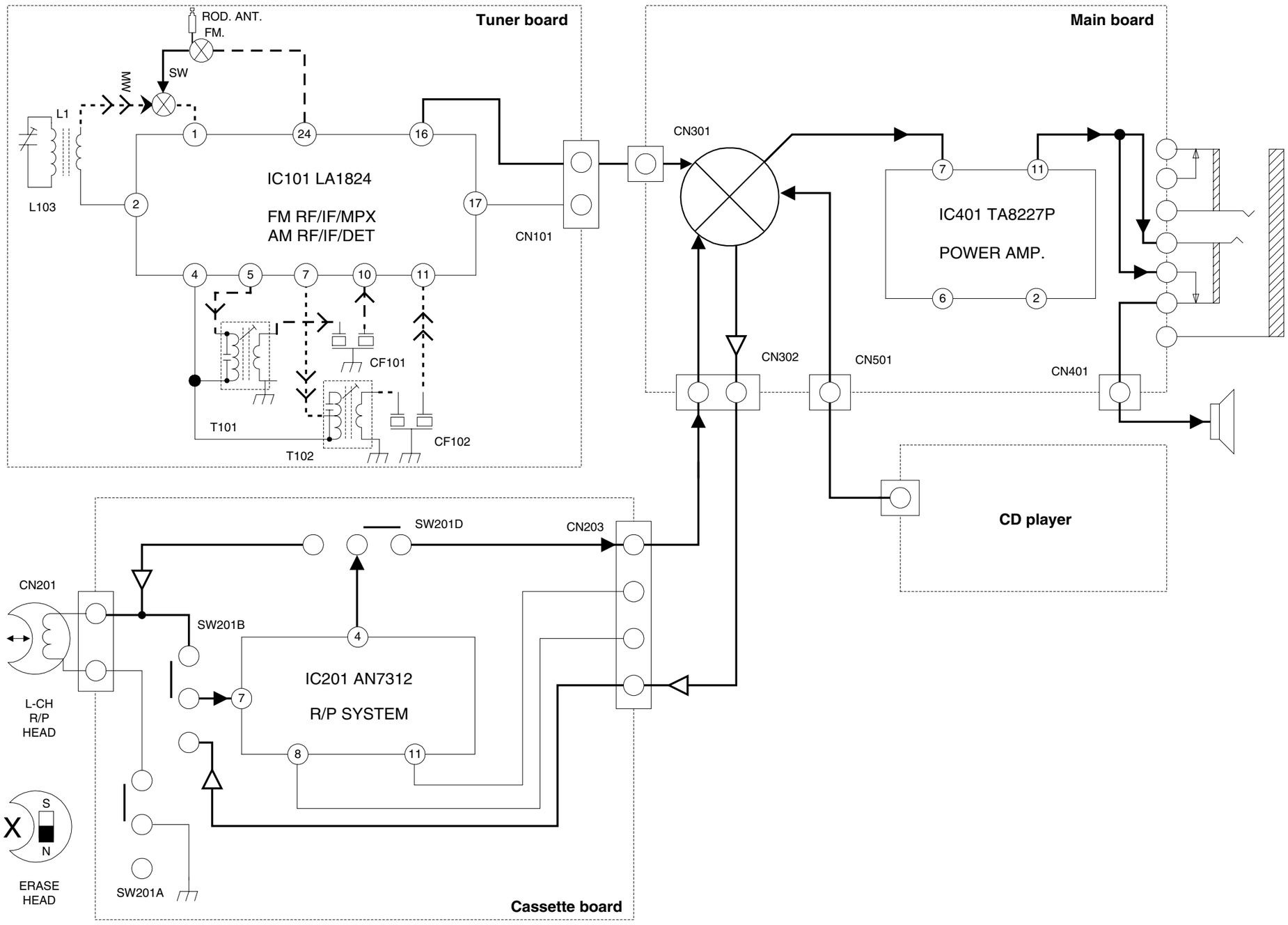


Contents

No.21171SCH
Dec. 2002

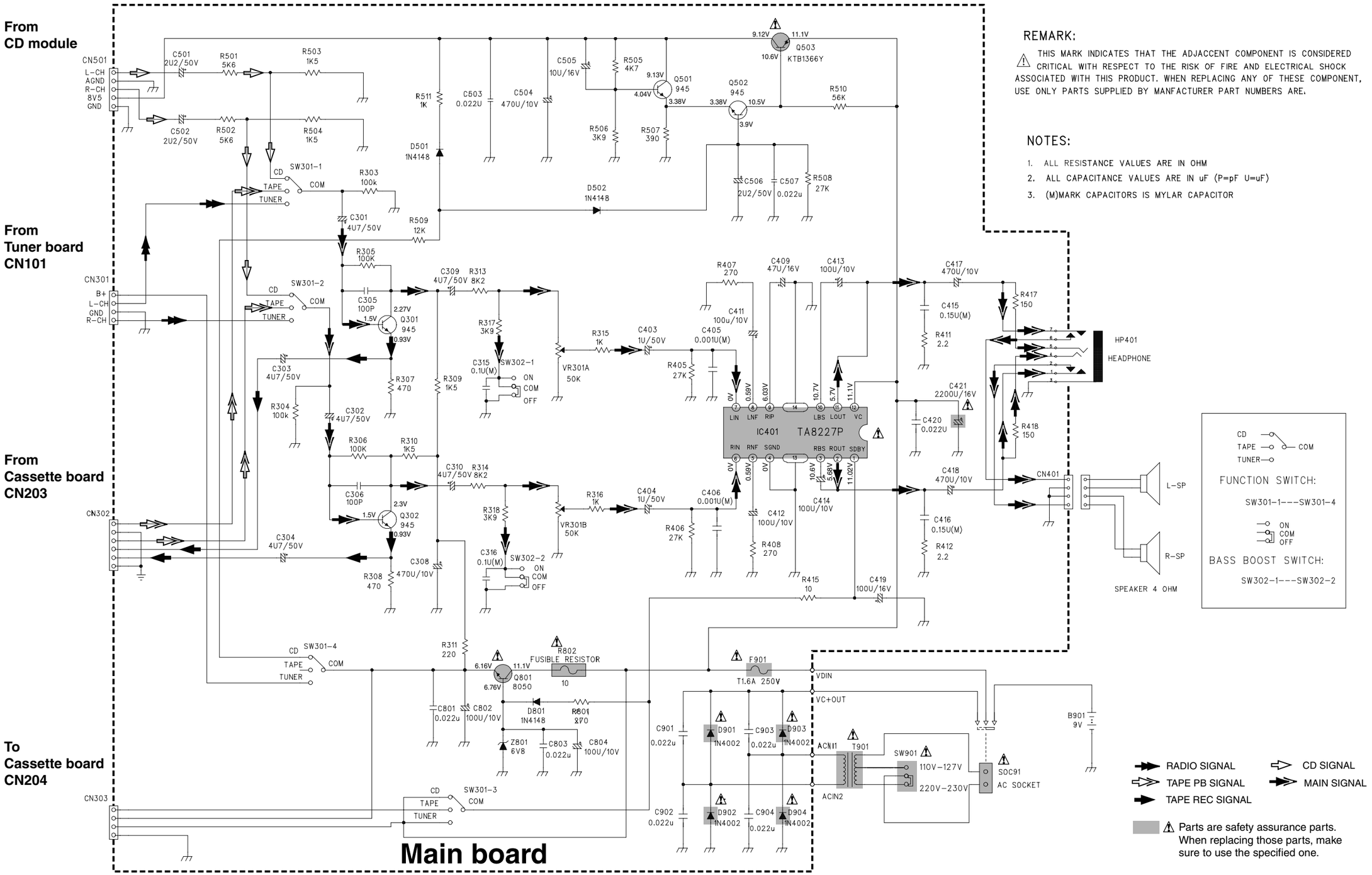
In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (▬), diode (▬) and ICP (●) or identified by the "⚠" mark nearby are critical for safety.
(This regulation does not correspond to J and C version.)

Block diagram

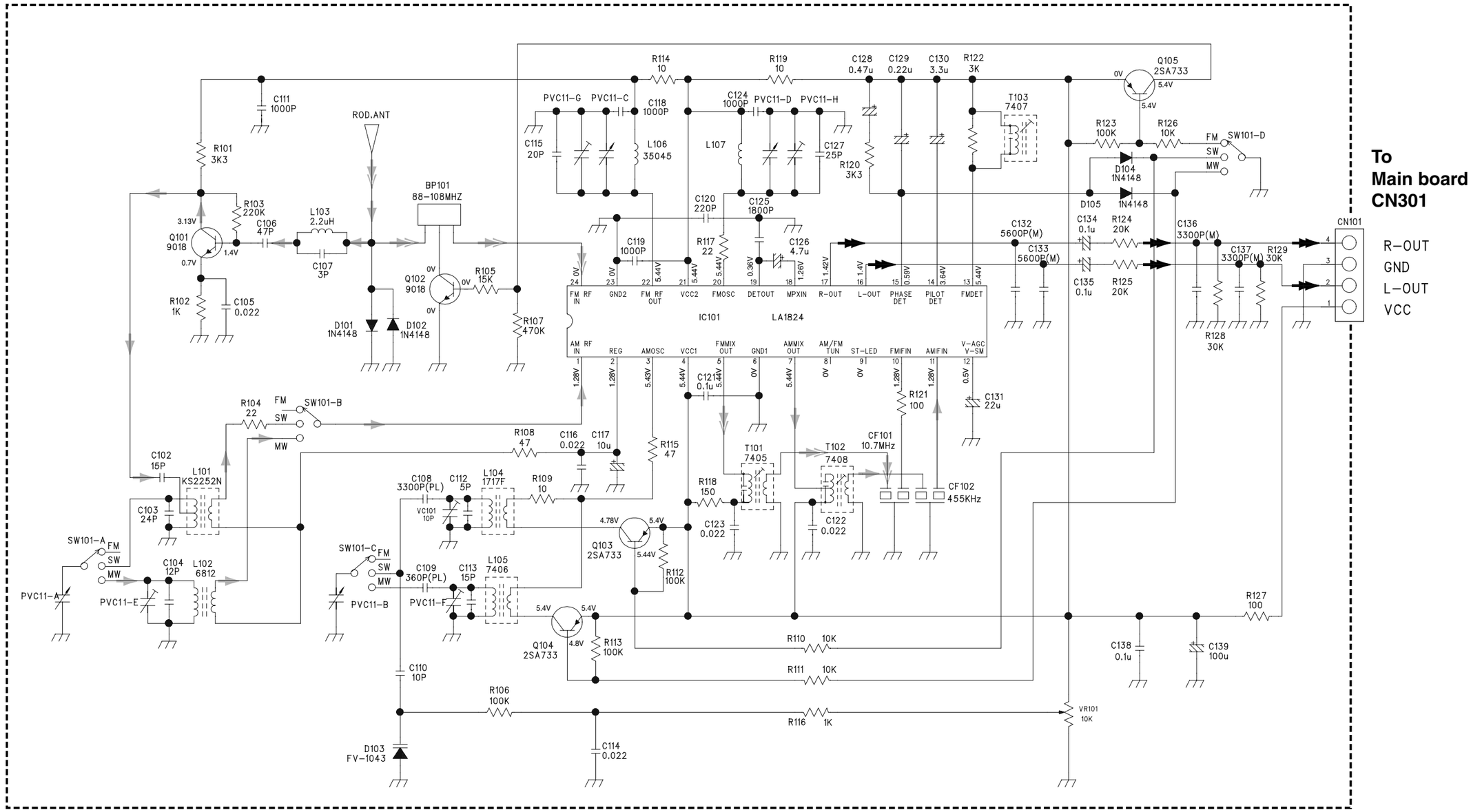


Standard schematic diagrams

■ Main section



■ Tuner section



To Main board CN301

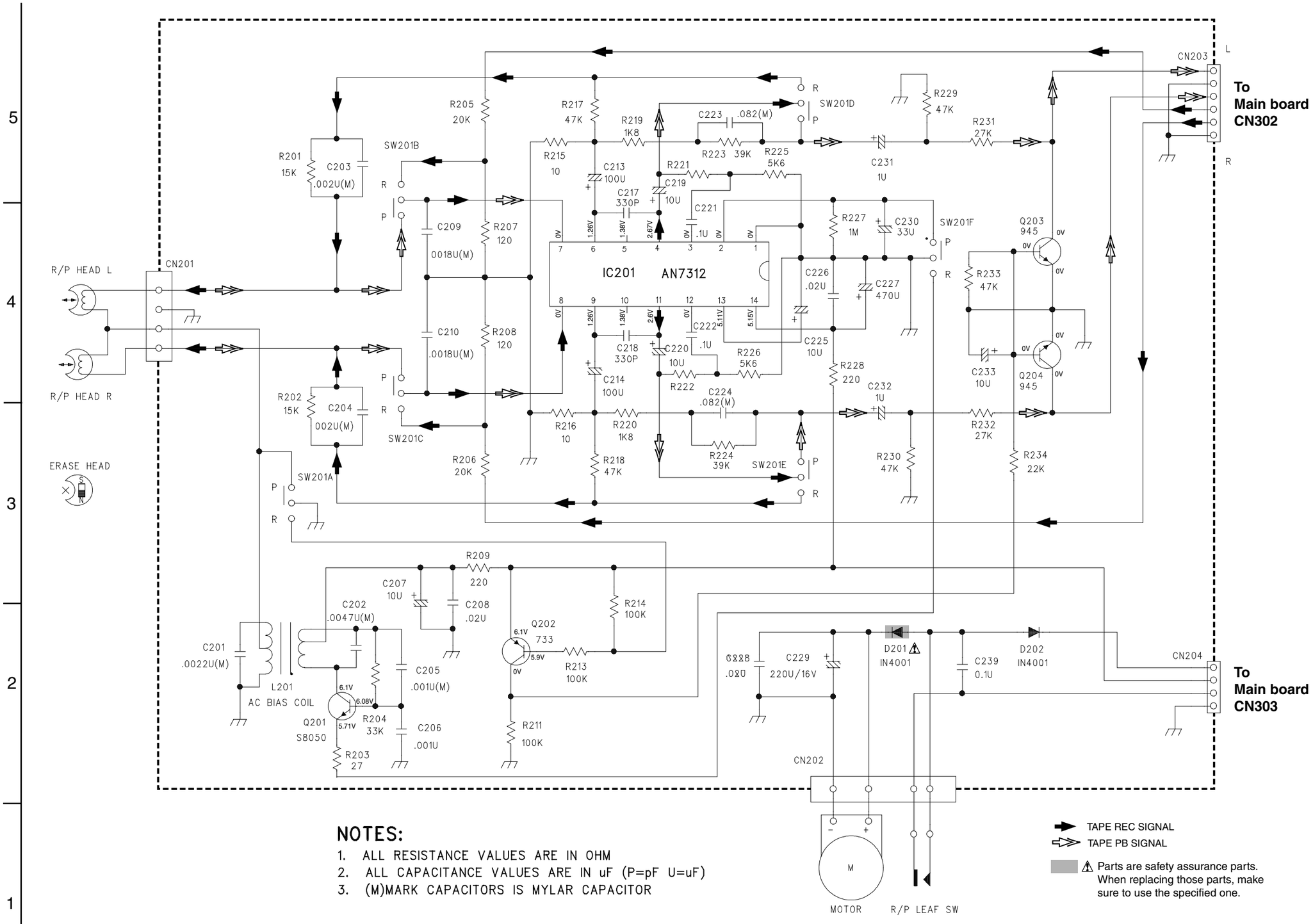
R-OUT
GND
L-OUT
VCC

NOTES

1. ALL RESISTANCE VALUES ARE IN OHM
2. ALL CAPACITANCE VALUES ARE IN uF (P=pF u=uF)
3. (M)MARK CAPACITORS IS MYLAR CAPACITOR
   (PL)MARK CAPACITORS IS POLY CAPACITOR

MW/SW SIGNAL
FM SIGNAL
RADIO SIGNAL

■ Cassette section



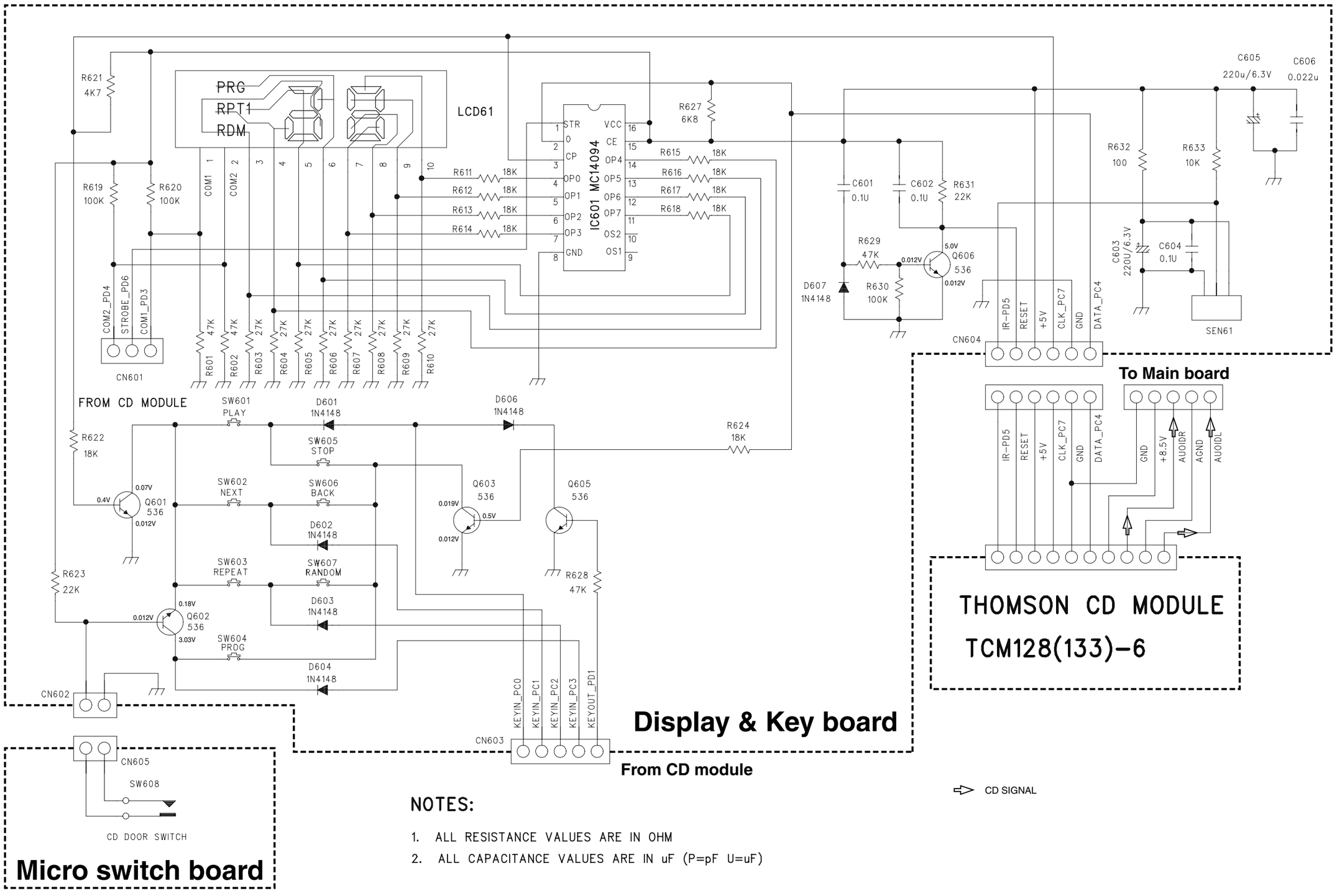
NOTES:

1. ALL RESISTANCE VALUES ARE IN OHM
2. ALL CAPACITANCE VALUES ARE IN uF (P=pF U=uF)
3. (M)MARK CAPACITORS IS MYLAR CAPACITOR

TAPE REC SIGNAL
TAPE PB SIGNAL

⚠ Parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

■ Display & Key section



NOTES:

1. ALL RESISTANCE VALUES ARE IN OHM
2. ALL CAPACITANCE VALUES ARE IN uF (P=pF U=uF)

JVC

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