JVC

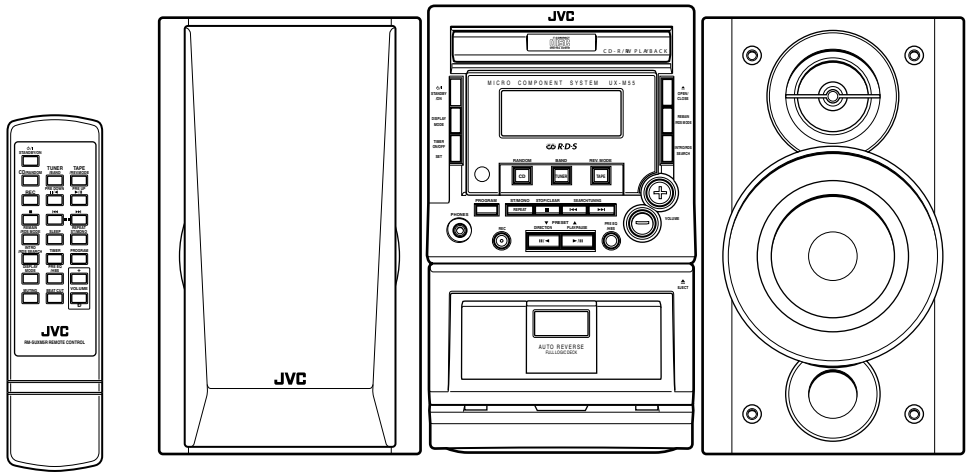
SERVICE MANUAL

MICRO COMPONENT SYSTEM

UX-M55

Area suffix

E ---------- Continental Europe
EN ---------- Northern Europe



SP-UXM5 CA-UXM55 SP-UXM5

COMPACT disc DIGITAL AUDIO

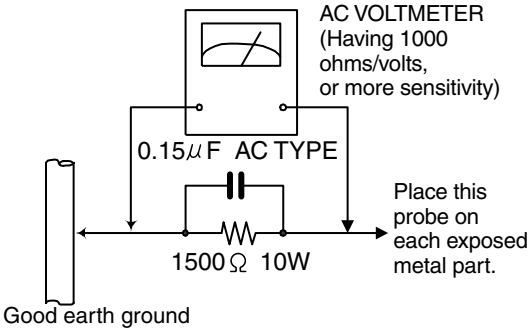
CD·R·D·S

Contents

No.21190
Jan. 2003

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

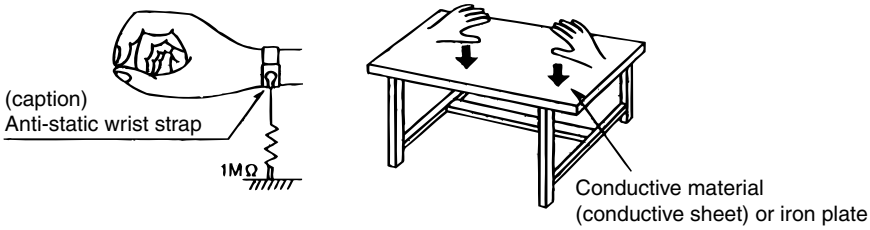
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players.
Be careful to use proper grounding in the area where repairs are being performed.

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 card 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.

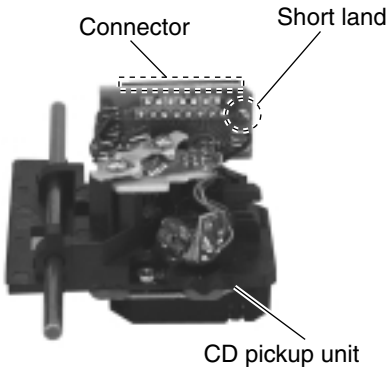
3. Handle the card wire carefully as it may break when subjected to strong force.

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 card wire is disconnected from the connector on the CD pickup unit.
  (If the card wire is disconnected without applying solder, the CD pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land after connecting the card 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.**

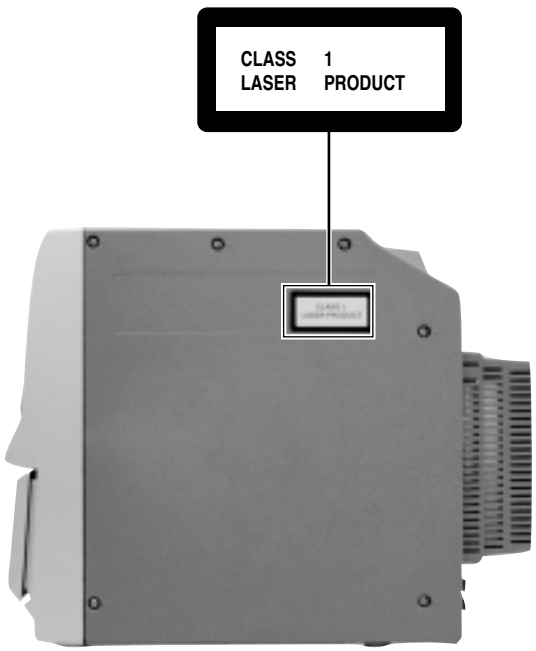
VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

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

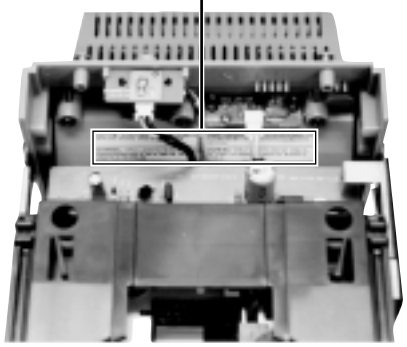
ADVARSEL : Usynlig laserstråling ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

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

REPRODUCTION AND POSITION OF LABELS



WARNING LABEL



Disassembly method

<Main body section>

Replacement of the fuses and power amplifier IC

■ Replacing the fuses (See Fig. 1.)

- Remove the left side plate according to its disassembly method (see **Figs. 6** and **7**).

Fuses are located inside the left side plate.

[Caution] Be sure to replace the required fuses with designated ones.

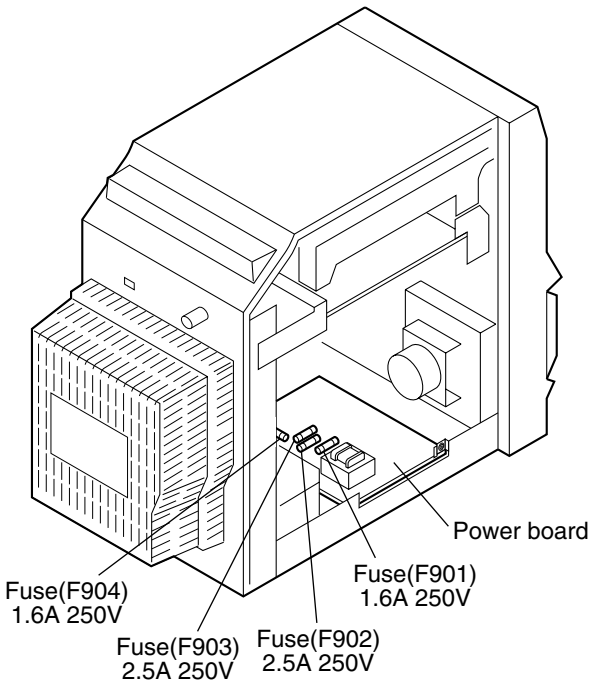


Fig.1

■ Replacing the power amplifier IC on the main board (See Figs. 2 and 3.)

- Remove the main board according to its disassembly method. (See Figs. **18** and **19**.)

1. From the reverse side of the main board, remove the two screws **A** retaining the bracket. (See Fig.2.)
2. From the forward side of the main board, remove the four screws **B** retaining the bracket. (See Fig.3.)
3. Remove the screw **C** attaching the power amplifier IC onto the heat sink. (See Fig.3.)
4. In order to replace the power amplifier IC, remove the solder from the soldered part **a** on the reverse side of the main board. (See Fig.3.)

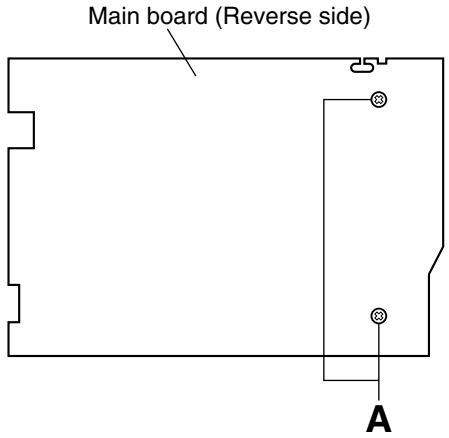


Fig.2

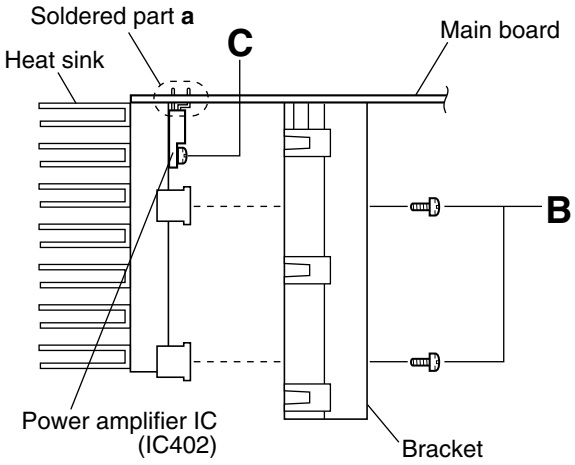


Fig.3

■ Removing the right side plate

(See Figs. 4 and 5.)

1. From the right side of the main body, remove the three screws **D** and three screws **E** retaining the right side plate. (See Fig.4.)

2. Slide the right side plate toward the rear (in the direction of the arrow **1**) until the claw **b** at the back of the right side plate is hooked by the bottom case and then lift the right side plate upward (in the direction of the arrow **2**) to remove it. (See Fig.5.)

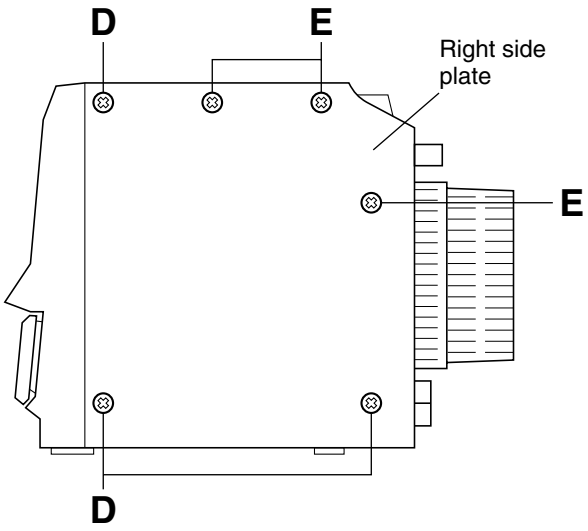


Fig.4

■ Removing the left side plate

(See Figs. 6 and 7.)

1. From the left side of the main body, remove the three screws **D** and three screws **E** retaining the left side plate. (See Fig.6.)

2. Slide the left side plate toward the rear (in the direction of the arrow **3**) until the claw **c** at the back of the left side plate is hooked by the bottom case, and then lift the left side plate upward (in the direction of the arrow **4**) to remove it. (See Fig.7.)

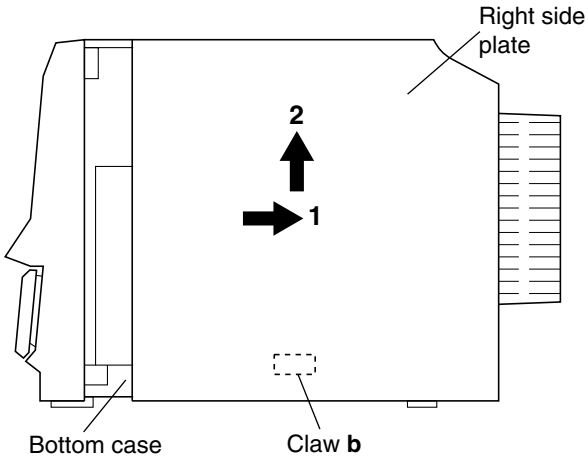


Fig.5

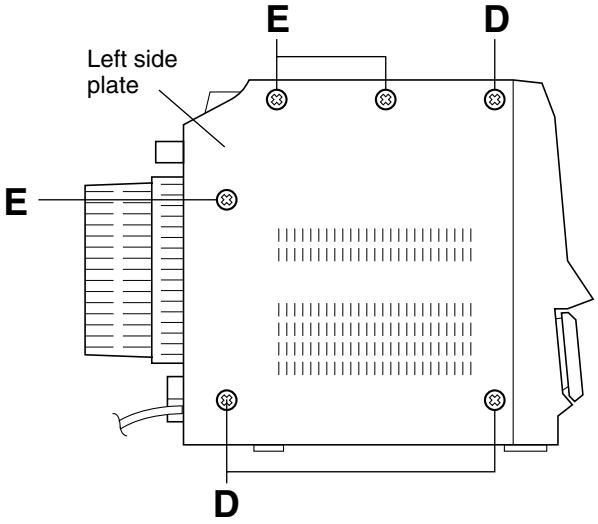


Fig.6

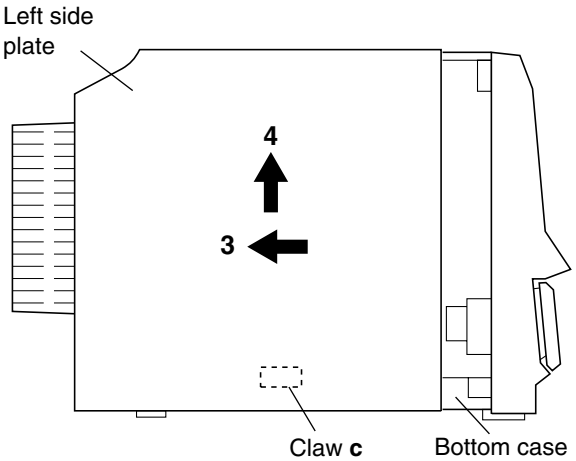


Fig.7

■ Removing the top cabinet

(See Figs. 8 and 9.)

- Remove the left and right side plates.

1. From the back side of the main body, loosen the two screws **F** retaining the top cabinet. (See Fig.8.)

2. Lift the rear part of the top cabinet to remove it. (See Fig.9.)

■ Removing the front cabinet assembly

(See Figs. 10 to 12.)

- Remove the left and right side plates.
- Remove the top cabinet.

1. From the left side of the main body, remove the tie band bundling the wires. (See Fig.10.)

2. Disconnect the wire from the connector on the cassette switch board. (See Fig.10.)

3. Remove the screw **G** retaining the holder on the earphone board. (See Fig.10.)

4. Disconnect the wires from the two connectors CN607 and CN608 on the CD & MCU board. (See Figs.10 and 11.)

5. Remove the four screws **H** and the two screws **J** retaining the CD mechanism assembly from the left and right. (See Figs.10 and 11.)

6. Remove the screw **K** retaining the front cabinet assembly from the bottom side of the main body. (See Fig.12.)

7. While opening the hooks **d** to the left and right of the lower part of the front cabinet assembly (in the direction of the arrows **1**), slide the front cabinet assembly toward the front (in the direction of the arrow **2**). (See Fig.12.)

8. Disconnect the wire from the connector on the PB/REC head board, and then remove the front cabinet assembly. (See Fig.10.)

[Note] After assembly, apply a locking agent to the screws G, H and J.

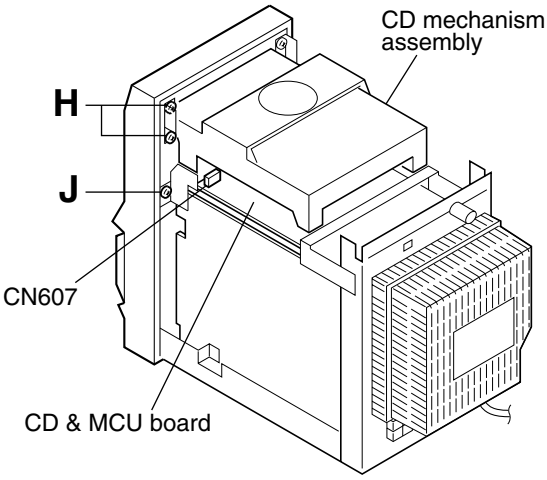


Fig.11

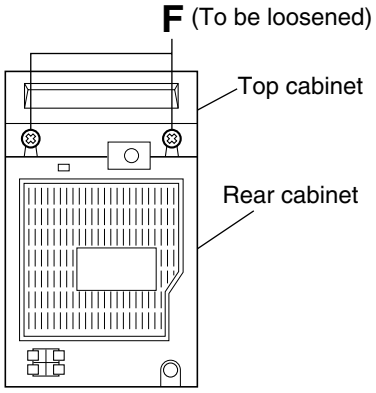


Fig.8

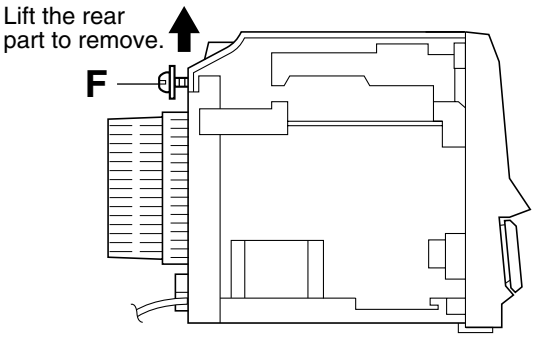


Fig.9

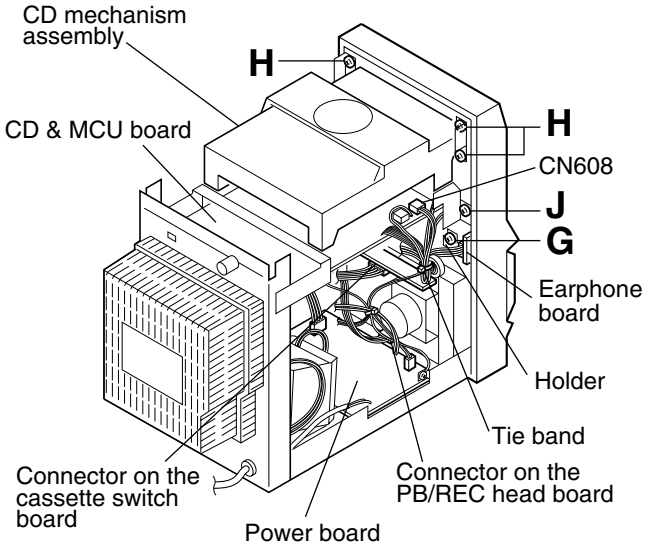


Fig.10

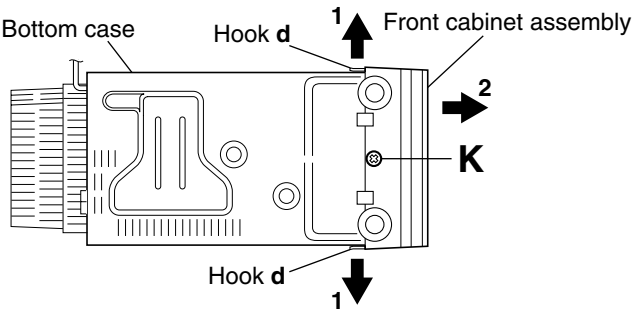


Fig.12

■ Removing the CD mechanism assembly (See Figs. 13 to 15.)

- Remove the left and right side plates.
- Remove the top cabinet.
- Remove the front cabinet assembly.

1. From the top side of the main body, disconnect the wires from the four connectors CN601, CN602, CN603 and CN701 on the CD & MCU board. (See Fig.13.)
2. From the left side of the main body, remove the tie bands bundling the wires. (See Fig.14.)
3. Disconnect the wire from the connector CN902 on the power board. (See Fig.14.)
4. From the left and right sides of the main body, remove the four screws **L** retaining the CD rear mounting bracket. (See Figs.14 and 15.)
5. Slide the CD mechanism assembly toward the front (in the direction of the arrow) and remove it from the locking board support of the main board. (See Fig.15.)

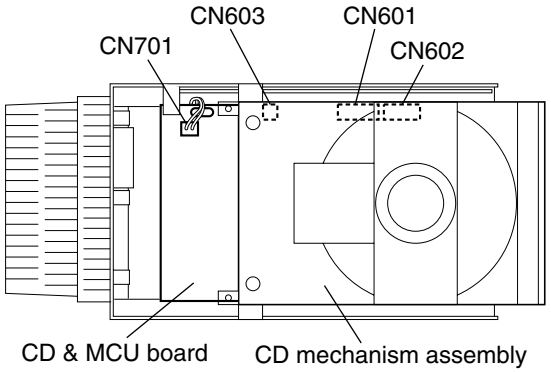


Fig.13

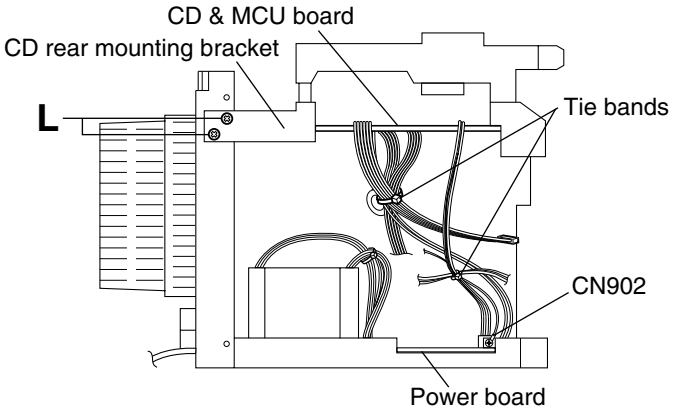


Fig.14

■ Removing the power board (See Figs. 16 and 17.)

- Remove the left and right side plates.

1. Disconnect the wires from the connector CN901 on the power board. (See Fig.16.)
2. Remove the tie bands bundling the wires. (See Fig.16.)
3. Remove the screw **M** retaining the lug wire. (See Fig.16.)
4. Remove the two screws **N** retaining the bottom case. (See Fig.16.)
5. Remove the power board by pinching the two locking board supports retaining the power board using radio pliers, etc. (See Fig.17.)

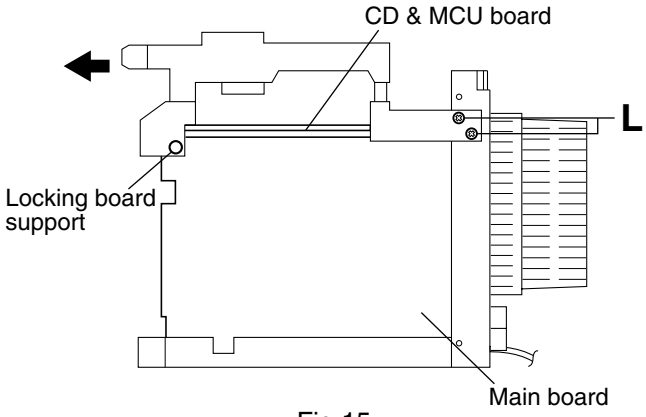


Fig.15

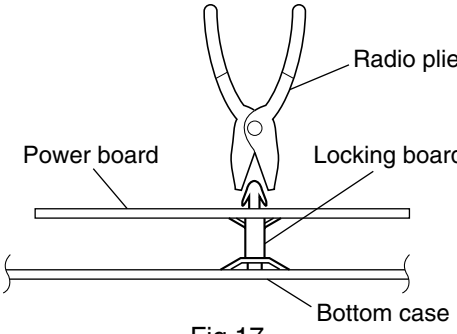


Fig.17

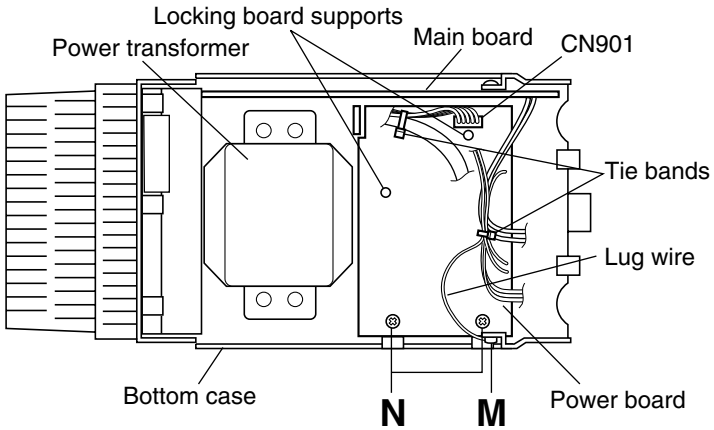


Fig.16

■ Removing the main board

(See Figs. 18 and 19.)

- Remove the left and right side plates.
- Remove the top cabinet.
- Remove the front cabinet assembly.
- Remove the CD mechanism assembly.

1. From the inside of the main body, remove the five screws **P** retaining the bracket. (See Fig.18.)

2. From the top side of the main body, remove the wires from the connectors CN104 and CN106 on the AM and FM antenna boards. (See Fig.19.)

3. From the rear side of the main body, remove the two screws **Q** and three screws **R** retaining the rear cabinet. (See Fig.18.)

4. Remove the screw **S** and screw **S'** retaining the FM antenna board and earth wire. (See Fig.18.)

[Note] When attaching the screw S', attach the earth wire together the FM antenna board.

5. Remove the rear cabinet.

6. From the top side of the main body, remove the wire clamp bundling the wires. (See Fig.19.)

7. Remove the screw **T** retaining the bracket of the main board. (See Fig.19.)

8. Remove the screw **U** retaining the regulator IC(IC302). (See Fig.19.)

9. Remove the tie bands bundling the wires. (See Fig.19.)

10. Disconnect the wire from the connector CN901 on the power board. (See Fig.19.)

11. Remove the locking board support on the main board, and then take out the main board from the bottom case. (See Fig.19.)

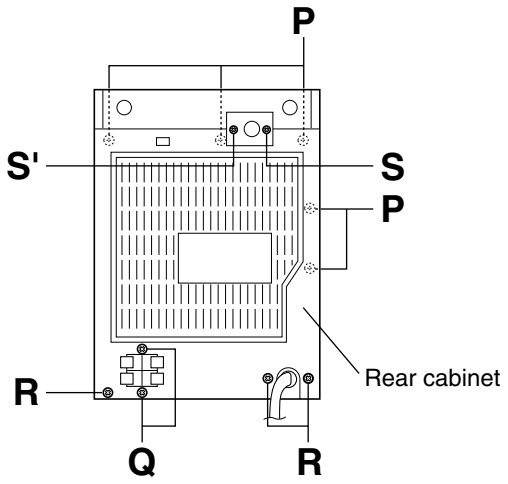


Fig.18

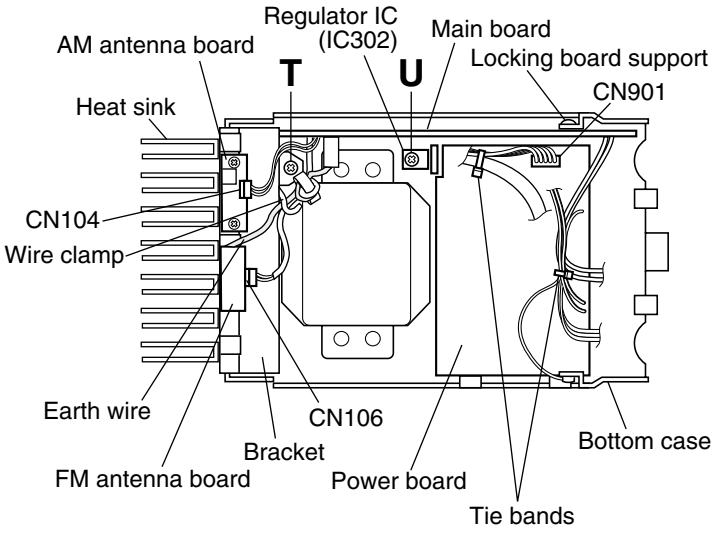


Fig.19

<Front cabinet assembly section>

- Remove the left and right side plates.
- Remove the top cabinet.
- Remove the front cabinet assembly.

■ Removing the key board (See Fig. 20.)

Remove the ten screws **V** retaining the key board.

■ Removing the cassette mechanism assembly (See Fig.20.)

Remove the two screws **W** and the two screws **X** retaining the cassette mechanism assembly.

[Note] After assembly, apply a locking agent to the screws W and X.

■ Removing the damp gear (See Fig. 20.)

Remove the screw **Y** retaining the damping gear holder and take out the damp gear.

[Note] After assembly, apply a locking agent to the screw Y.

■ Removing the latching cam assembly (See Fig.20.)

Remove the two screws **Z** retaining the latching cam assembly and remove the latching cam assembly.

[Note] After assembly, apply a locking agent to the screw Z.

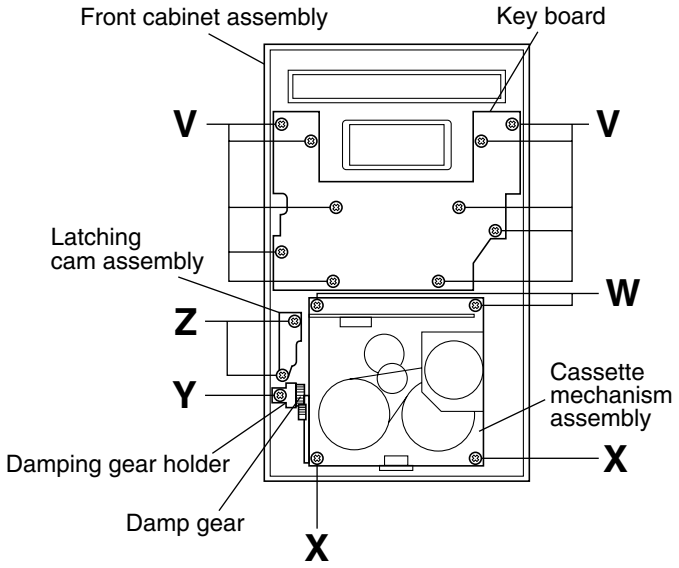


Fig.20

■ Removing the cassette door cover (See Fig.21.)

[Note] Use the following procedure to remove only the cassette door cover. This procedure does not require the removal of exterior parts such as the side panels.

1. Open the cassette door.

2. Slide the cassette door cover in the direction of the arrow, and disengage the two claws **e** and the two claws **f** on the left and right of the cassette door cover from the technical door.

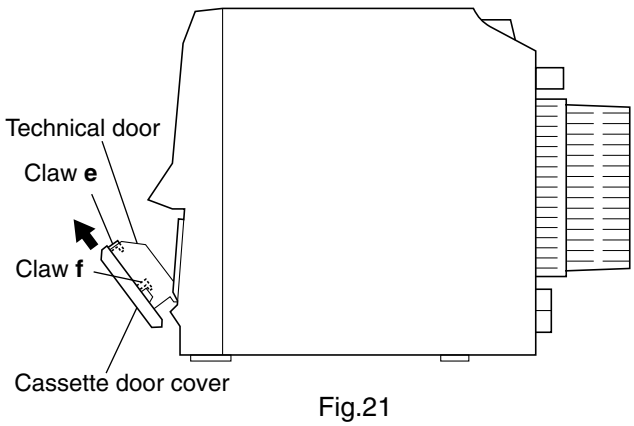


Fig.21

■ Removing the technical door

(See Figs. 22 and 23.)

- Remove the cassette mechanism assembly.
- Remove the cassette door cover.

1. Open the technical door, disengage the cassette torsion spring hooked across the front of the front cabinet assembly and the technical door in the outward direction, and remove it from the claw **g**. (See Fig.22.)

2. From the back side of the front cabinet assembly, remove the two screws **AA** retaining the logic deck bracket. (See Fig.23.)

3. While pushing the arm section **h** of the technical door in the direction of the arrow, remove the shaft section **i** of the technical door from the front cabinet assembly. (See Fig.23.)

4. While pushing the arm section **j** of the technical door in the direction of the arrow, remove the shaft section **k** of the technical door from the front cabinet assembly. (See Fig.23.)

5. Take out the technical door from the back side of the front cabinet assembly.

[Caution] In the assembly, be sure to put the cassette torsion spring around the shaft section i before attaching the technical door.

[Note] After assembly, apply a locking agent to the screws AA.

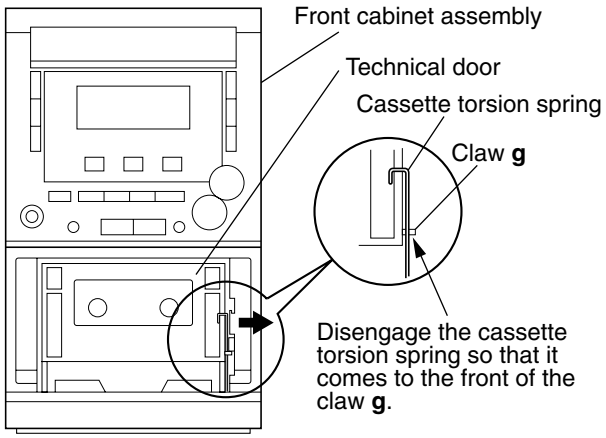


Fig.22

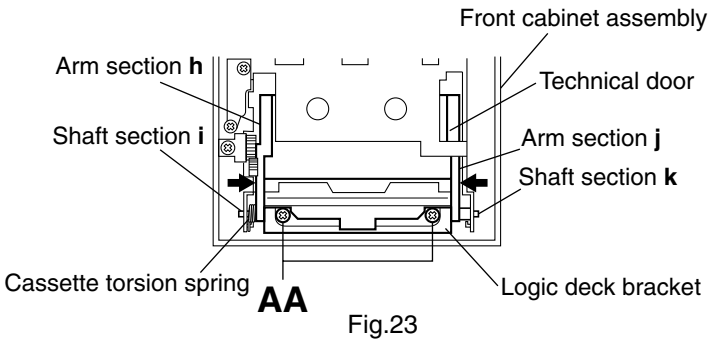


Fig.23

<CD mechanism section>

- Remove the left and right side plates.
- Remove the top cabinet.
- Remove the front cabinet assembly.
- Remove the CD mechanism assembly.

■ Removing the CD & MCU board

(See Figs. 1 and 2.)

1. From the bottom side of the CD mechanism assembly, remove the two screws **A** retaining the CD & MCU board. (See Fig.1.)

2. Disengage the two locking board supports retaining the CD & MCU board. (See Fig.1.)

3. Disconnect the wires from the two connectors CN702 and CN703 on the CD & MCU board. (See Figs.1 and 2.)

4. Lift the CD & MCU board and attach solder to the short land part **a** on the CD pickup assembly. (See Fig.2.)

5. Disconnect the card wire from the connector CN704 on the CD & MCU board, and take out the CD & MCU board. (See Fig.2.)

[Cautions]
- **Be sure to solder the short land part a on the CD pickup unit before disconnecting the card wire from the CD pickup unit. (See Fig. 2.) If the card wire is disconnected without attaching solder, the CD pickup may be destroyed by static electricity.**
- **In the assembly, be sure to remove solder from the short land part a after connecting the card wire.**

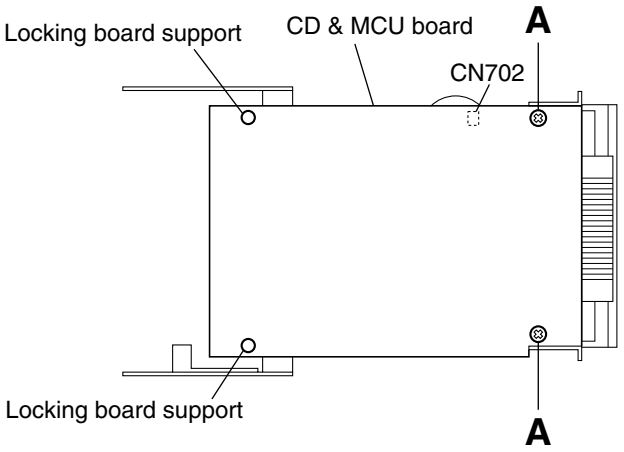


Fig.1

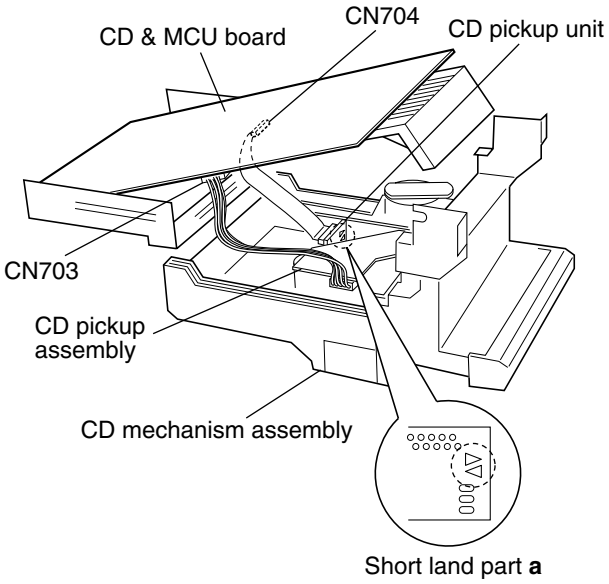


Fig.2

■ Removing the CD pickup assembly

(See Fig. 3.)

- Remove the CD & MCU board.

1. From the back side of the CD mechanism assembly, remove the four screws **B** retaining the CD pickup assembly.

2. Take out the CD pickup assembly.

[Note] When removing or replacing the dampers, note their colors and be sure to attach them in their correct positions.

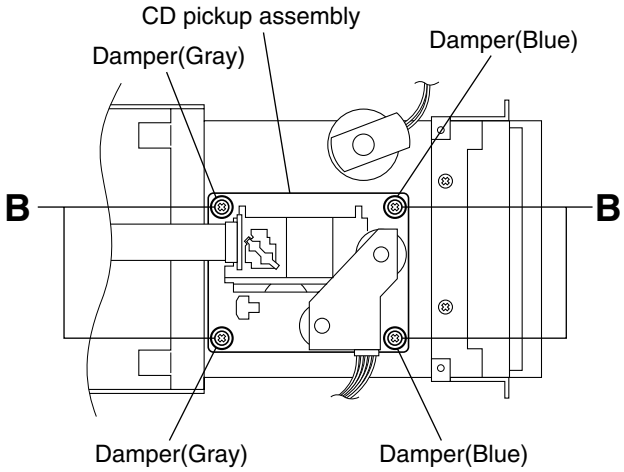


Fig.3

■ Removing the tray motor

(See Figs. 4 to 7.)

- Remove the CD & MCU board.

1. From the top side of the CD mechanism assembly, open up the claws **b** and **c** at the left and right of the clamper assembly and lift the assembly to remove it. (See Fig.4.)

2. Push the section **d** of the elevator in the direction of the arrow and lower the CD pickup assembly. (See Fig.5.)

3. Pull out the tray. (See Fig.5.)

4. While opening up the claws **e** at the left and right of the tray in the directions of the arrows, remove the tray. (See Fig.6.)

5. While pushing the claw **f** on the CD mechanism assembly downwards, slide the elevator fully in the direction of the arrow. (See Fig.7.)

6. Lift the gear slightly, remove the transparent cover. (See Fig.7.)

7. Remove the belt from the tray motor pulley. (See Fig.7.)

8. Remove the two screws **C** retaining the tray motor and remove it from the bottom side of the CD mechanism assembly. (See Fig.7.)

[Notes]
- **Take care not to attach grease on the belt.**
- **After attaching the tray motor in the assembly, apply a locking agent to the screws C.**

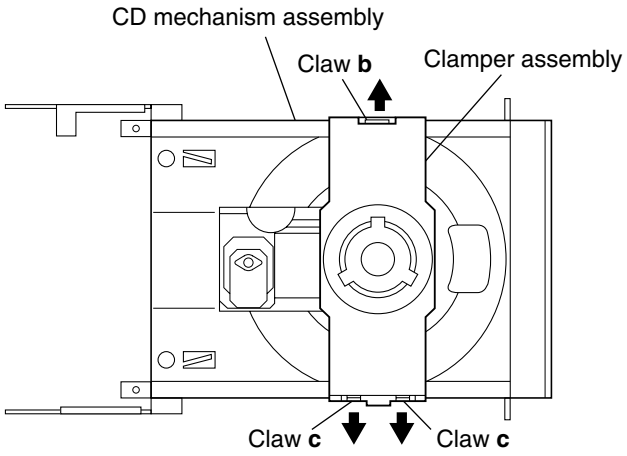


Fig.4

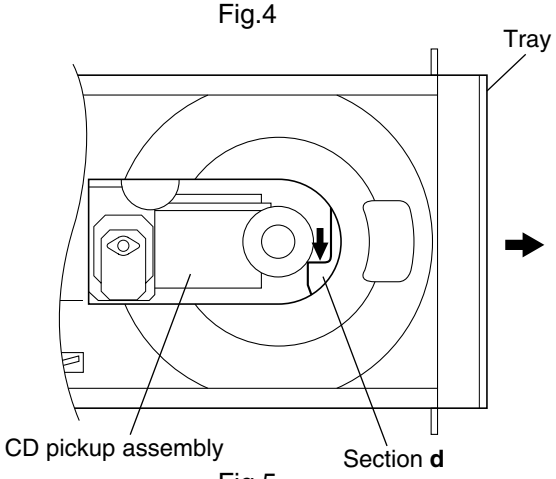


Fig.5

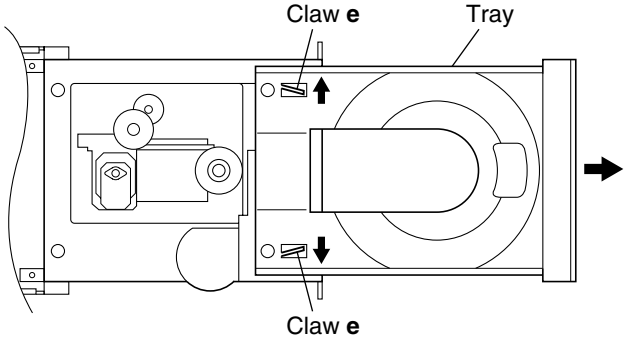


Fig.6

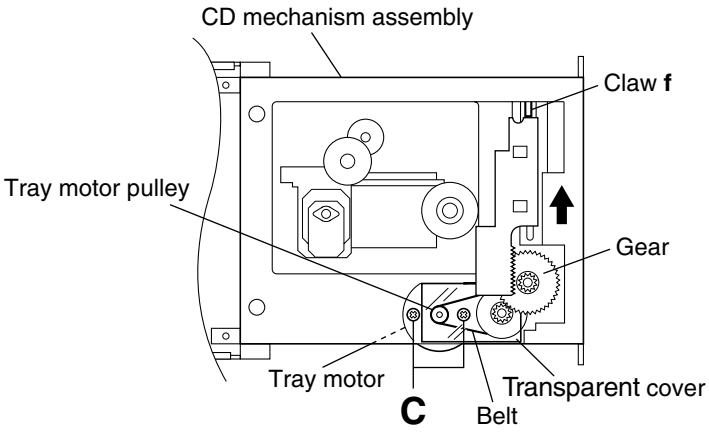


Fig.7

■ Replacing the CD pickup unit

(See Figs. 8 to 11.)

[Note] Use the following procedure to replace only the CD pickup unit.

1. Remove the left and right side plates. (See **Figs. 4** to **7** of "Main body section" on page 1-7.)

2. Remove the top cabinet. (See **Figs. 8** and **9** of "Main body section" on page 1-8.)

3. From the top side of the main body, open up the claws **b** and **c** on the left and right of the clamper assembly in the direction of the arrows and lift the assembly to remove it. (See Fig.8.)

4. Push the section **d** on the elevator of the CD mechanism assembly and lower the CD pickup assembly. (See Fig.9.)

5. Pull out the tray. (See Fig.10.)

6. Remove the slit washer retaining the feed middle gear, and take out the feed middle gear. (See Fig.10.)

7. Loosen the two screws **D** retaining the shaft. (See Fig.10.)

8. Turn the CD pickup unit upside down and apply solder to the short land part **a**. (See Fig.11.)

9. Disconnect the card wire from the CD pickup unit and replace the unit. (See Fig.11.)

[Cautions]
- **Be sure to solder the short land part a on the CD pickup unit before disconnecting the card wire from the CD pickup unit. (See Fig. 11.) If the card wire is disconnected without attaching solder, the CD pickup may be destroyed by static electricity.**
- **In the assembly, be sure to remove solder from the short land part a after connecting the card wire.**

[Note] Removing the CD pickup unit involves the removal of the sliding spring. In the assembly, be sure to attach the spring in the correct orientation before attaching the CD pickup unit. (See Fig. 11.)

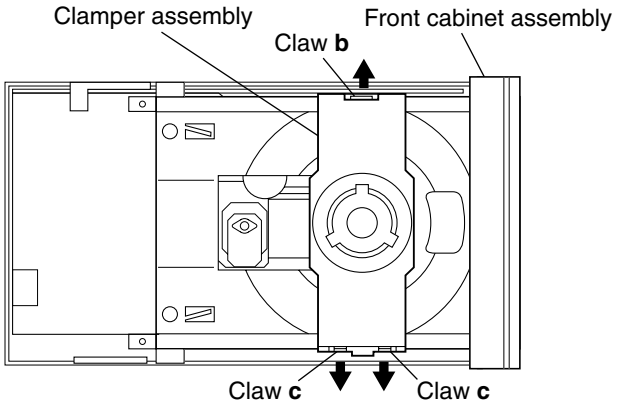


Fig.8

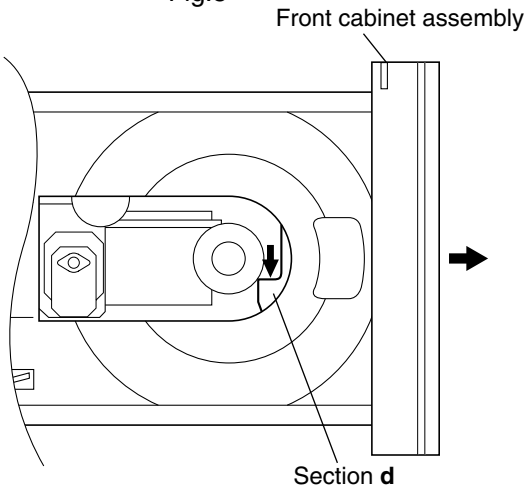


Fig.9

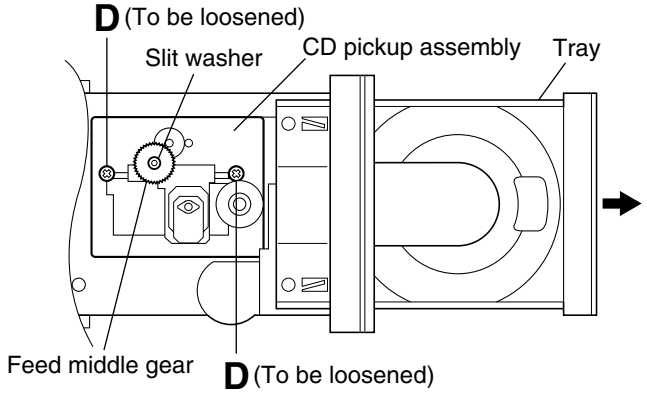


Fig.10

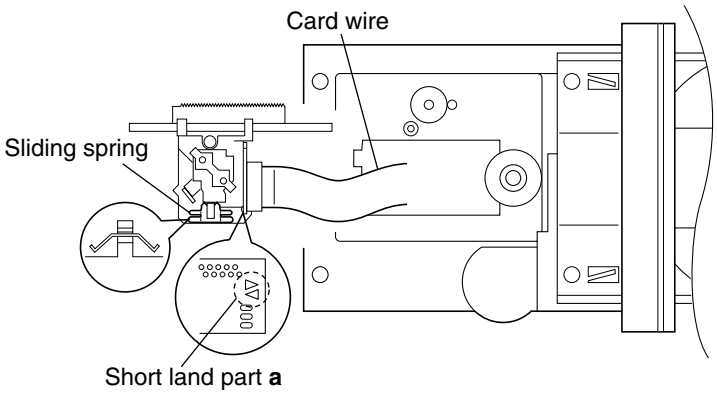


Fig.11

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(2.8V) 8 ohm
PHONES output -10dBs(0.245V)/32 ohm

Cassette amplifier section
Reference output :
Speaker output 0dBs(2.8V) 8 ohm
PHONES output -10dBs(0.245V)/32 ohm

CD section
CD test disc : CTS-1000

■ Measurement conditions

Power supply voltage
AC220~240V(50Hz/60Hz)

■ 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 output (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. 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.	▪ 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 1-17.
Tape speed and wow/flutter check and adjustment	▪ Test tape: VT712 (3kHz) ▪ Signal output terminal: PHONES output (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 1-17. ▪ Check only
PB frequency response check	▪ Test tape: VT702 ▪ Signal output terminal: PHONES output (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-6dB).	Deviation between 1kHz and 8kHz: (0+3dB-6dB)	
Bias frequency check	▪ Tape: Normal ▪ 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 P201 is 68kHz+1kHz-1kHz if not adjust L203 until the frequency counter indicates 68 kHz+1kHz-1kHz.		L203, P201 See Fig.3 on page 1-17.
REC and PB frequency response adjustment	▪ Test tape: AC225 ▪ Signal input: FM22.5 DEV 60dBμ with emphasis ▪ Signal output terminal: PHONES output (with 32 ohm load)	At TUNER, set the BAND 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+3dB-6dB).	Level difference between REC and PB: Within (0+3dB-6dB)	

■ Tuner section

Item	Measuring condition	Check and adjustment procedure	Standard value	Adjusting part
AM IF adjustment	▪ Signal input: Loop antenna ▪ Signal output: IC101 pin18	1.Set the intermediate frequency sweep generator to AM 450kHz. 2.Adjust the T101 for maximum and center output.		T101 See Fig.3 on page 1-17.
AM tracking adjustment	▪ Signal input: Loop antenna ▪ Signal output: PHONES output (with 32 ohm load)	1.Set the TUNER at 522kHz adjust L102 until the test pin of R121 voltage at 1.7V+0.1V-0.1V. 2.Set the TUNER at 1629kHz, check the test pin of R121 voltage at 8.0V+0.3V-0.3V. 3.Set the TUNER and S/G at 612kHz, adjust L103 for maximum output. 4.Set the TUNER and S/G at 1404kHz, adjust the TC101 for maximum output. 5.Repeat the above steps 3 and 4.		L102 L103 TC101 See Fig.3 on page 1-17.
Tuner 114kHz Filter the waves adjustment	▪ Signal input: IC101 pin19 ▪ Signal output: IC101 pin18	1.Set standby and input 114kHz signal to IC101 pin19. 2.Adjust the L104 for output voltage minimum.		L104 See Fig.3 on page 1-17.

■ Location of adjusting parts

· Cassette mechanism section

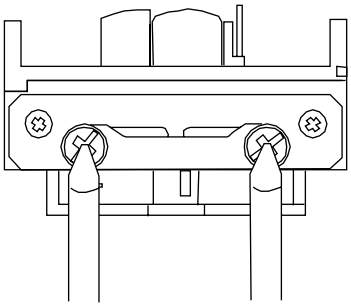


Fig.1 Head output signal

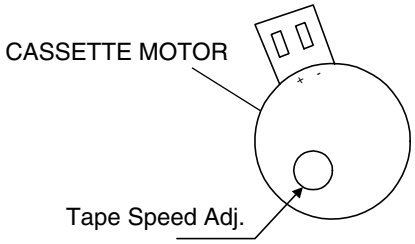


Fig.2

· Main board

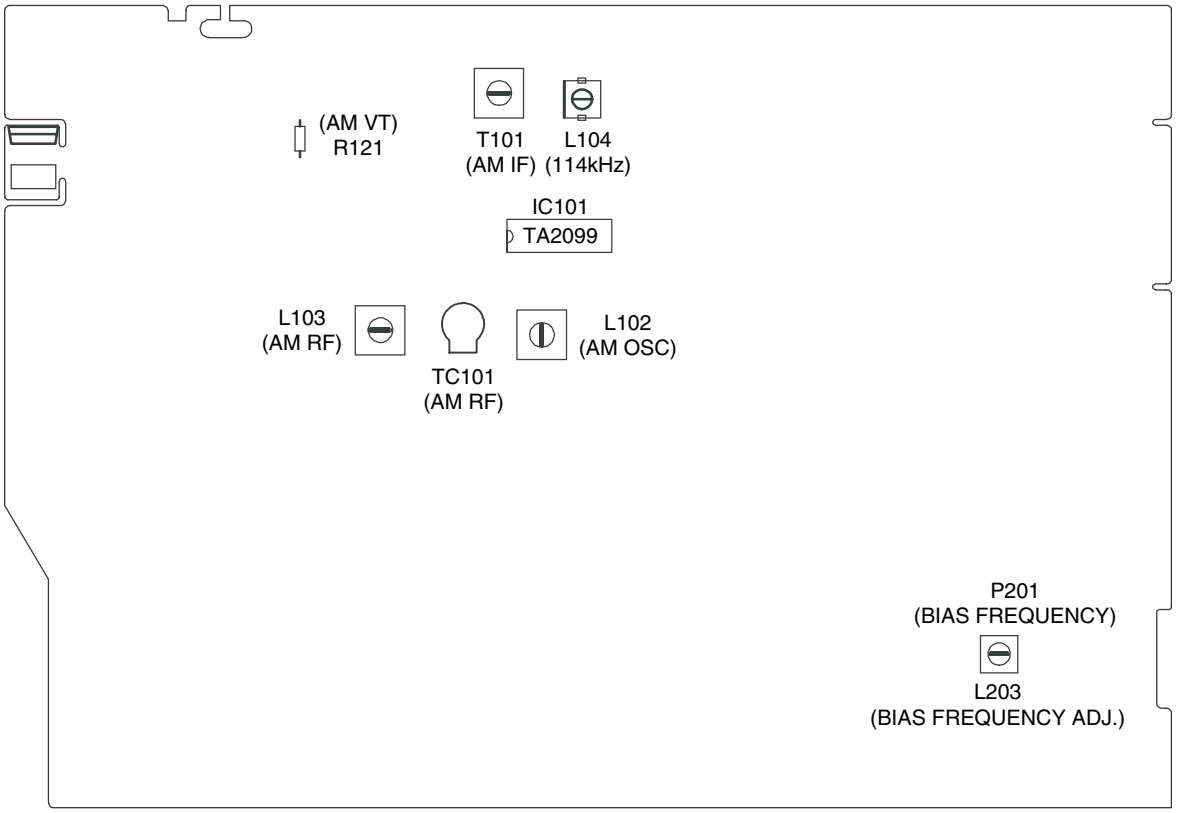
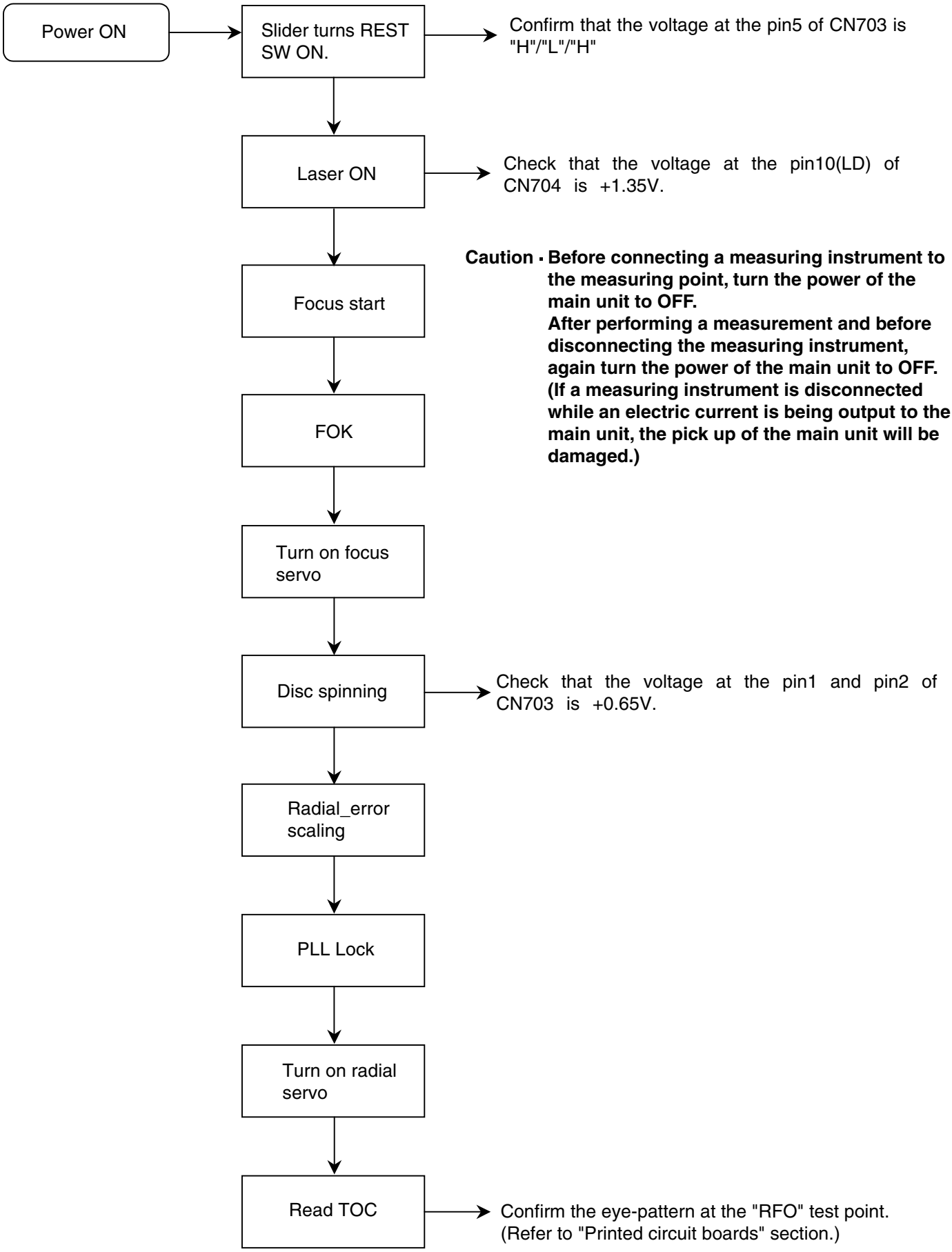


Fig.3

Flow of functional operation until TOC read



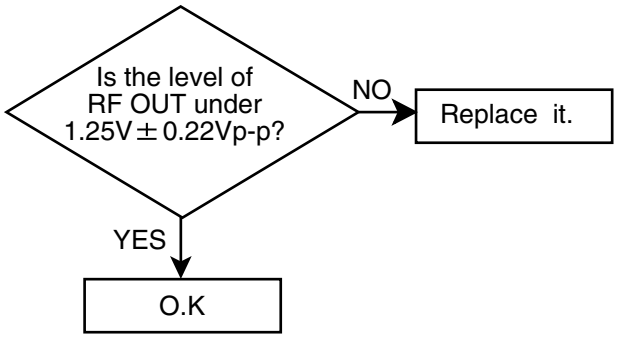
Caution - Before connecting a measuring instrument to the measuring point, turn the power of the main unit to OFF.
After performing a measurement and before disconnecting the measuring instrument, again turn the power of the main unit to OFF.
(If a measuring instrument is disconnected while an electric current is being output to the main unit, the pick up of the main unit will be damaged.)

Maintenance of laser pickup

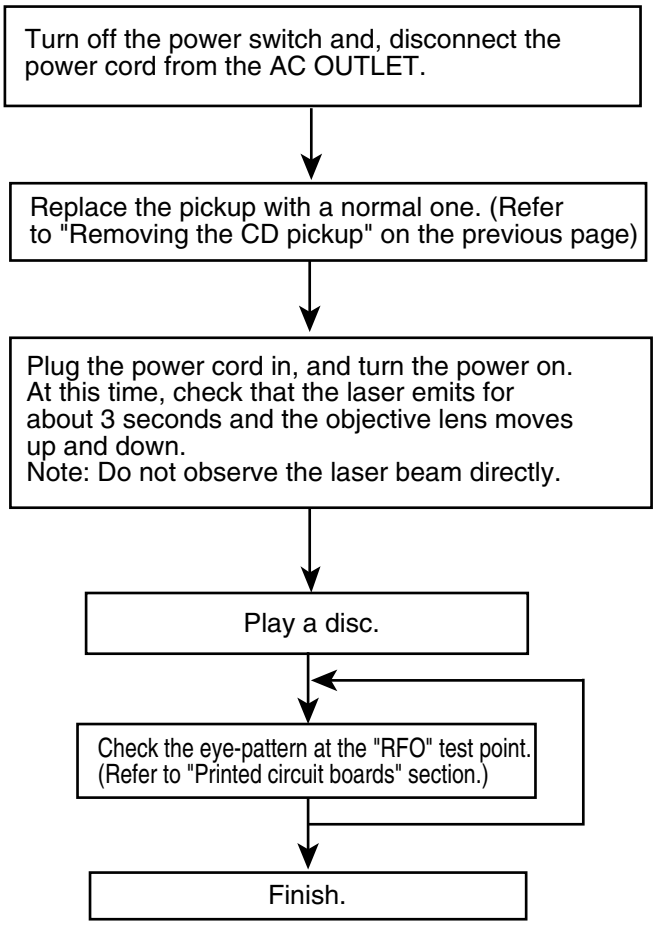
(1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

(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.

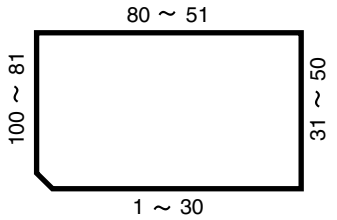
Trouble shooting

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.
		▪ Defect in IC402	Check voltages. Replace if necessary.
		▪ Defect in IC301	Check voltages. Replace if necessary.
MW	No sound, weak sound (Low sensitivity)	▪ Improper location of unit	Rotate or reposition the unit.
		▪ Defect in IF T101	Check resistance, voltage, and current. Replace as needed.
		▪ Defect AM antenna coil L103 or oscilloscope coil L102	Replace if necessary.
		▪ Intermediate frequency tuning faulty	Readjust (see "Adjustment method").
		▪ RF tracking faulty	Readjust (see "Adjustment method").
		▪ Defective IC101	Check voltages. Replace if necessary.
		▪ Defective IC102	Check voltages. Replace if necessary.
		▪ Poor contact in antenna circuit	Check resistance and resolder.
FM	No sound, weak sound (Low sensitivity)	▪ FM antenna not connected	Connect the built-in or external antenna.
		▪ Defective band selector switch	Replace or repair the switch.
		▪ Defective IC101	Check voltages. Replace if necessary.
		▪ Defective IC102	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.
		▪ Defective IC202	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 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.
		▪ Defective IC701	Check voltages. Replace if necessary.
		▪ Defective IC704	Check voltages. Replace if necessary.
		▪ Defective IC703	Check voltages. Replace if necessary.
		▪ Defect in the CD pickup mechanism	Replace as required.

Description of major ICs

■ TC9462F (IC701) : Digital servo single chip processor

1. Terminal layout



2. Pin function

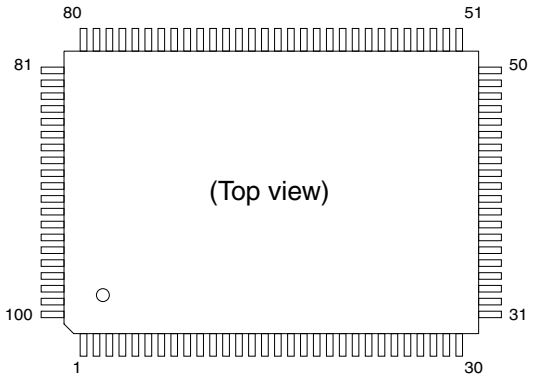
Pin No.	Symbol	I/O	Function
1	TEST0	I	Test mode terminal. Normally, keep at open.
2 3	$\overline{HSO}$ $\overline{UHSO}$	O O	Playback speed mode flag output terminal. (Not connect) $\overline{UHSO}$ / $\overline{HSO}$ / PLAYBACK SPEED: H / H / Normal; H / L / 2 times; L / H / 4 times; L / L / -
4	EMPH	O	Subcode Q data emphasis flag output terminal. Emphasis ON at "H" level and OFF at "L" level. The output polarity can invert by command. (Not connect)
5	LRCK	O	Channel clock output terminal. (44.1kHz) L-ch at "L" level and R-ch at "H" level. The output polarity can invert by command. (Not connect)
6	V_{SS}	-	Digital ground terminal.
7	BCK	O	Bit clock output terminal. (1.4112MHz) (Not connect)
8	AOUT	O	Audio data output terminal. (Not connect)
9	DOUT	O	Digital data output terminal. (Not connect)
10	MBOV	O	Buffer memory over signal output terminal. Over at "H" level. (Not connect)
11	IPF	O	Correction flag output terminal. At "H" level, AOUT output is made to correction impossibility by C_2 correction processing. (Not connect)
12	SBOK	O	Subcode Q data CRCC check adjusting result output terminal. The adjusting result is OK at "H" level. (Not connect)
13	CLCK	I/O	Subcode P~W data readout clock input/output terminal. This terminal can select by command bit. (Not connect)
14	V_{DD}	-	Digital power supply voltage terminal.
15	V_{SS}	-	Digital ground terminal.
16	DATA	O	Subcode P~W data output terminal. (Not connect)
17	SFSY	O	Playback frame sync signal output terminal. (Not connect)
18	SBSY	O	Subcode block sync signal output terminal. (Not connect)
19	SPCK	O	Processor status signal readout clock output terminal. (Not connect)
20	SPDA	O	Processor status signal output terminal. (Not connect)
21	COFS	O	Correction frame clock output terminal. (7.35kHz) (Not connect)
22	MONIT	O	Internal signal (DSP internal flag and PLL clock) output terminal. Selected by command. This terminal output the text data with serial by command. (NC)
23	V_{DD}	-	Digital power supply voltage terminal.
24	TESIO0	I	Test input/output terminal. Normally, keep at "L" level. The terminal that inputted the clock for read of text data by command.
25	P2Vref	-	PLL double reference voltage supply terminal.
26	HSSW	O	2/4 times speed at "VREF" voltage. (Not connect)
27	ZDET	O	1 bit DA converter zero detect flag output terminal.
28	PDO	O	Phase difference signal output terminal of EFM signal and PLCK signal.

Pin No.	Symbol	I/O	Function
29	TMAXS	O	TMAX detection result output terminal. Selected by command bit (TMPS).
30	TMAX	O	TMAX detection result output terminal. Selected by command bit (TMPS). DIFFERENCE RESULT / TMAX OUTPUT Longer than fixed freq. / "P2VREF" Shorter than fixed freq. / "Vss" Within the fixed freq. / "HiZ"
31	LPFN	I	LPF amplifier inverting input terminal for PLL.
32	LPFO	O	LPF amplifier output terminal for PLL.
33	PVref	-	PLL reference voltage supply terminal.
34	VCOREF	I	VCO center frequency reference level terminal. Normally, keep at "PVREF" level.
35	VCOF	O	VCO filter terminal.
36	AVSS	-	Analog ground terminal.
37	SLCO	O	Data slice level output terminal.
38	RFI	I	RF signal input terminal.
39	AVDD	-	Analog power supply voltage terminal.
40	RFCT	I	RFRP signal center level input terminal.
41	RFZI	I	RFRP zero cross input terminal.
42	RFRP	I	RF ripple signal input terminal.
43	FEI	I	Focus error signal input terminal.
44	SBAD	I	Sub-beam adder signal input terminal.
45	TSIN	I	Test input terminal. Normally, keep at "VREF" level.
46	TEI	I	Tracking error signal input terminal. Take in at tracking servo on.
47	TEZI	I	Tracking error zero cross input terminal.
48	FOO	O	Focus servo equalizer output terminal.
49	TRO	O	Tracking servo equalizer output terminal.
50	Vref	-	Analog reference voltage supply terminal.
51	RFGC	O	RF amplitude adjustment control signal output terminal.
52	TEBC	O	Tracking balance control signal output terminal.
53	FMO	O	Feed equalizer output terminal.
54	FVO	O	Speed error signal or feed search equalizer output terminal. (Not connect)
55	DMO	O	Disk equalizer output terminal. (PWM carrier=88.2kHz for DSP, Synchronize to PXO)
56	2Vref	-	Analog double reference voltage supply terminal.
57	SEL	O	APC circuit ON/OFF indication signal output terminal. At the laser on time, UHF = L at "HiZ" level and UHF = H at "H" level.
58	FLGA	O	External flag output terminal for internal signal. (Not connect) Can select signal from TEZC, $\overline{FOON}$, $\overline{FOK}$ and RFZC by command.
59	FLGB	O	External flag output terminal for internal signal. (Not connect) Can select signal from $\overline{DFCT}$, $\overline{FOON}$, $\overline{FMON}$ and RFZC by command.
60	FLGC	O	External flag output terminal for internal signal. (Not connect) Can select signal from $\overline{TRON}$, $\overline{TRSR}$, $\overline{FOK}$ and $\overline{SRCH}$ by command.
61	FLGD	O	External flag output terminal for internal signal. (Not connect) Can select signal from $\overline{TRON}$, $\overline{DMON}$, $\overline{HYS}$ and $\overline{SHC}$ by command.
62	VDD	-	Digital power supply voltage terminal.
63	VSS	-	Digital ground terminal.
64 65 66 67	IO0 IO1 IO2 IO3	I/O I/O I/O I/O	General I/O terminal. Can change over input port or output port by command. At the input mode time can readout a state of terminal (H/L) by read command. At the output mode time can control a state of terminal (H/L/HiZ) by command. (Not connect)

Pin No.	Symbol	I/O	Function
68	$\overline{\text{DMOUT}}$	I	This terminal controls IO0~IO3 terminal. At "L" level time, IO0, 1 out feed equalizer signal of 2-state PWM, IO2,3 out disk equalizer signal of 2-state PWM.
69	$\overline{\text{CKSE}}$	I	Normally, keep at open.
70	$\overline{\text{DACT}}$	I	DAC test mode terminal. Normally, keep at open.
71	TESIN	I	Test input terminal. Normally, keep at "L" level.
72	TESIO1	I	Test input/output terminal. Normally, keep at "L" level.
73	VSS	-	Digital ground terminal.
74	PXI	I	Crystal oscillator connecting input terminal for DSP. Normally, keep at "L" level.
75	PXO	O	Crystal oscillator connecting output terminal for DSP. (Not connect)
76	VDD	-	Digital power supply voltage terminal.
77	XVSS	-	Oscillator ground terminal for system clock.
78	XI	I	Crystal oscillator connecting input terminal for system clock.
79	XO	O	Crystal oscillator connecting output terminal for system clock.
80	XVDD	-	Oscillator power supply voltage terminal for system clock.
81	DVSR	-	Analog ground terminal for DA converter.(R-ch)
82	RO	O	R channel data forward output terminal.
83	DVDD	-	Analog supply voltage terminal for DA converter.
84	DVR	-	Reference voltage terminal for DA converter.
85	LO	O	L channel data forward output terminal.
86	DVSL	-	Analog ground terminal for DA converter.(L-ch)
87	TEST1	I	Test mode terminal. Normal, keep at open.
88	TEST2	I	Test mode terminal. Normal, keep at open.
89	TEST3	I	Test mode terminal. Normal, keep at open.
90	BUS0	I/O	Micon interface data input/output terminal.
91	BUS1	I/O	
92	BUS2	I/O	
93	BUS3	I/O	
94	VDD	-	Digital power supply voltage terminal.
95	VSS	-	Digital ground terminal.
96	BUCK	I	Micon interface clock input terminal.
97	$\overline{\text{CCE}}$	I	Command and data sending/receiving chip enable signal input terminal. The bus line becomes active at "L" level.
98	TEST4	I	Test mode terminal. Normal, keep at open.
99	$\overline{\text{TSMOD}}$	I	Local test mode selection terminal. (Not connect)
100	$\overline{\text{RST}}$	I	Reset signal input terminal. Reset at "L" level.

■TMP87EP26F-1J15 (IC601) : MCU

1. Terminal layout



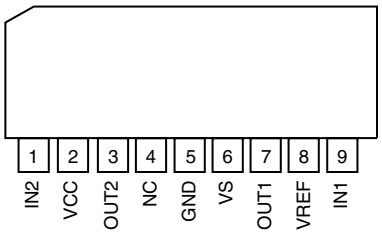
2.Pin function

Pin No.	Symbol	I/O	Function
1	VSS	-	GND (0V)
2	XOUT	O	Resonator connecting pins for high clock(4-8MHz).
3	XIN	I	For inputting external clock, XIN is used and XOUT is opened.
4	$\overline{\text{RESET}}$	I/O	Reset signal input or watchdog timer output/address-trap-reset output
5	XTOUT(P22)	I/O	Resonator connecting pins for slow clock(32.768kHz)
6	XTIN(P21)	I/O	or general purpose I/O.
7	TEST	I	Test pin for out-going test. Always fixed to low.
8	SHIFT FREQ	O	Shift the crystal oscillation frequency to reduce tuner noise.
9	REMOTE	I	Remote control signal input
10	MUTE	O	Audio mute output
11	PLAY MUTE	O	Muting output during play, not connect
12	REC MUTE	O	Muting output during recording, not connect
13	PLAY/REC	O	Play or recording output, low for recording.
14	N.C.	-	Not connect
15	N.C.	-	Not connect
16	N.C.	-	Not connect
17	REC SW (RVS)/(WAIT)	I	Deck reverse record protection input. Low means can record on reverse side.
18	REC SW (FWD)	I	Deck forward record protection input. Low means can record on forward side.
19	B-SOL+	O	Solenoid output for deck B.
20	B-MODE SW	I	Mode switch input of deck B. Low means the head is up.
21	VOL STB	O	TC9422F volume STB output
22	POWER	O	Power output control
23	B-HALF SW	I	Half switch input of deck B. Low means deck B have tape.
24	JOG-B/VOL DATA	I/O	Jog dial input and TC9422F volume data output
25	JOG-A/VOL CLK	I/O	Jog dial input and TC9422F volume clock output
26	RDS CLK	I	BU1923F(RDS demodulator) interface CLK input
27	V MOTOR	O	Motor output
28	B-PHOTO OUT	I	Reel pulse input of deck B. Have pulse input means the tape is rotating.
29	CD-RW	O	CD-RW control output, not connect
30	$\overline{\text{RES}}$	O	CD servo reset output

Pin No.	Symbol	I/O	Function
31	$\overline{CCE}$	O	Servo DSP chip enable output
32	BUCK	O	Servo DSP clock output
33	BUS0	I/O	Servo DSP command and data I/O
34	BUS1	I/O	Servo DSP command and data I/O
35	BUS2	I/O	Servo DSP command and data I/O
36	BUS3	I/O	Servo DSP command and data I/O
37	TRAY IN(SLOUT)	O	Tray open/close outputs for current sensor drawer type mechanism.
38	TRAY OUT(SLIN)	O	
39	SLT	I	CD pick up position input: L if pick up is in inner side.
40	CLT(SLEND)	I	Current sensor input
41	N.C.	-	Not connected
42	RDS DATA	I	BU1923F(RDS demodulator) interface data input
43	STEREO	I	Stereo input pin for tuner stereo indication
44	POWER DETECT	I	Power down detection
45	AD K3	I	Panel key analog input
46	AD K2	I	Panel key analog input
47	AD K1	I	Panel key analog input
48	VAREF	-	Analog reference voltage input
49	(BOOT)	I	Control input for writing MCU program area via ICU interface.
50	V_{SS}	-	GND (0V)
51	V_{DD}	-	VDD (+5V)
52~91	SEG39~SEG0	O	LCD segment outputs (Pin 55 and 56: Not connect)
92~95	COM3~COM0	O	LCD common outputs
96	VLC	-	LCD drive power supply
97	PLL DATA	I/O	TC9257P (PLL) interface
98	PLL CLK	O	TC9257P (PLL) interface
99	PLL PERIOD	O	TC9257P (PLL) interface
100	V_{DD}	-	VDD (+5V)

■TA7291S (IC702) : Bridge driver

1.Terminal Layout

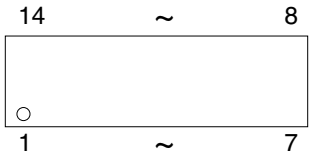


2.Pin function

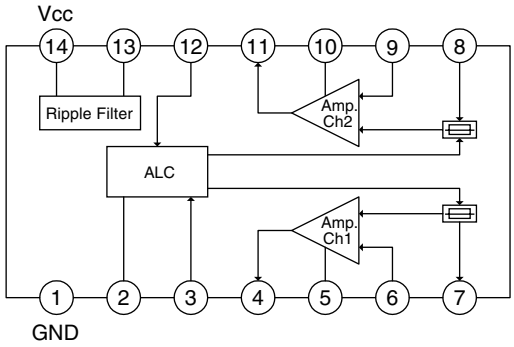
Pin No.	Symbol	I/O	Function
1	IN2(M-)	I	Input terminal
2	Vcc	-	Supply voltage terminal for logic
3	OUT2	O	Output terminal
4	NC	-	Not connect
5	GND	-	Ground terminal
6	Vs	-	Supply voltage terminal for motor driver
7	OUT1	O	Output terminal
8	Vref	-	Supply voltage terminal for control
9	IN1(M+)	I	Input terminal

■ AN7312 (IC202) : Dual recording/Playback pre-amplifier circuit with ALC

1. Terminal layout



2. Block diagram

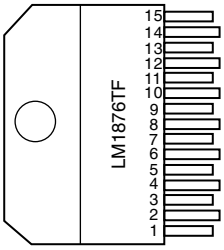


3. Pin function

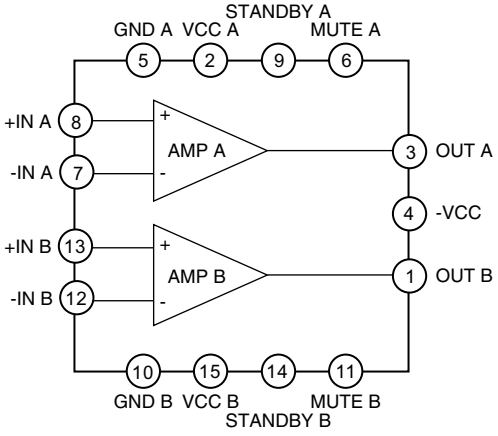
Pin No.	Symbol	I/O	Function
1	GND	-	GND
2	ALC Time Constant	-	ALC time constant by resistance and capacitor
3	ALC Input Ch.1	I	Right channel ALC input
4	Output Ch.1	O	Right channel output
5	Phase Compensation Ch.1	-	Not connect
6	N.F.B. Ch.1	I	Right channel negative feed back input
7	Input Ch.1	I	Right channel signal input
8	Input Ch.2	I	Left channel signal input
9	N.F.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

■ LM1876TF (IC402) : Overture audio power amplifier series

1. Terminal layout



2. Block diagram

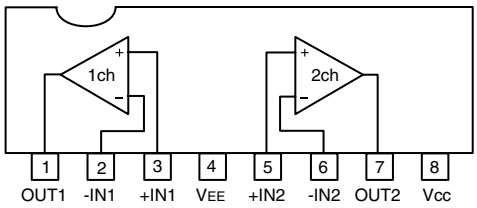


3. Pin function

Pin No.	Symbol	I/O	Function
1	OUT B	O	B output
2	VCC A	-	A V+
3	OUT A	O	A output
4	-Vcc	-	V-
5	GND A	-	Power Terminal
6	MUTE A	-	Control
7	-IN A	I	A -input
8	+IN A	I	A +input
9	Standby A	-	Control
10	GND B	-	Power Terminal
11	MUTE B	-	Control
12	-IN B	I	B -input
13	+IN C22B	I	B +input
14	Standby B	-	Control
15	VCC B	-	B V+

■ BA4558N (IC401/IC403) : Dual operational amplifier

1. Terminal layout & Block diagram

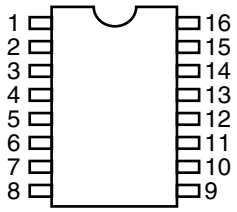


2. Pin function

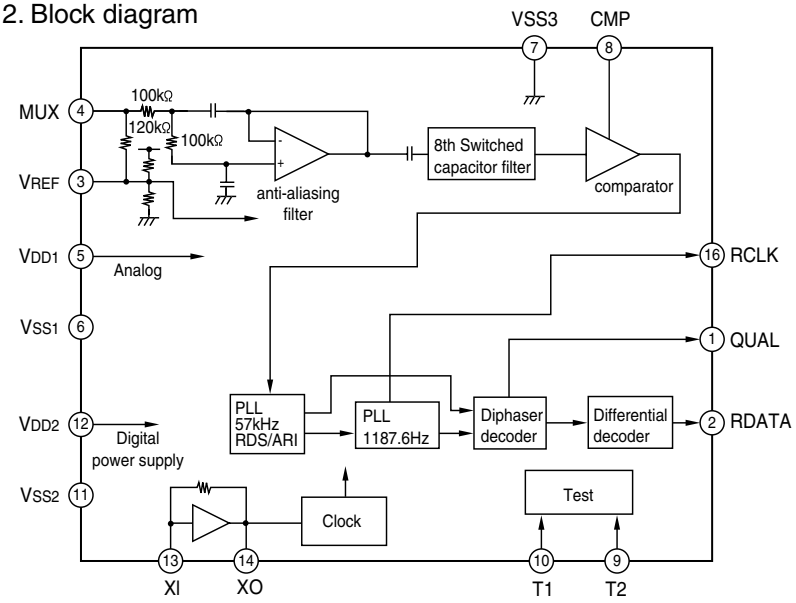
Pin No.	Symbol	I/O	Function
1	OUT1	O	A output
2	-IN1	I	A -input
3	+IN1	I	A +input
4	VEE	-	V-
5	+IN2	I	B +input
6	-IN2	I	B -input
7	OUT2	O	B output
8	VCC	-	V+

■ BU1924F (IC602) : RDS demodulator

1. Terminal layout



2. Block diagram

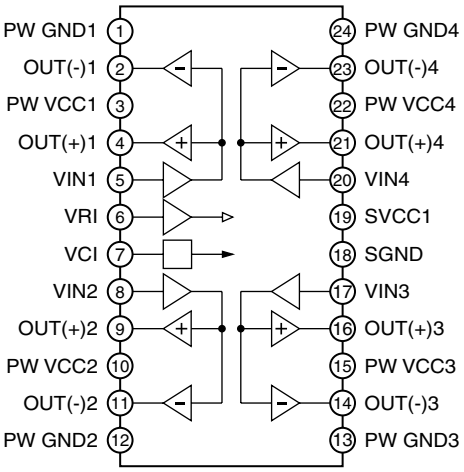


3. Pin function

Pin No.	Symbol	I/O	Function
1	QUAL	O	Demodulator quality good: HI (Not connect)
2	RDATA	O	Demodulator data
3	VREF	-	1/2 VDD1 see application
4	MUX	-	Composite see application
5	VDD1	-	Analog power supply
6	VSS1	-	Analog power supply
7	VSS3	-	Analog power supply
8	CMP	-	See application
9	T1	-	H: Internal clock stop L: Operation
10	T2	-	Testing (do not use)
11	VSS2	-	Digital power supply
12	VDD2	-	Digital power supply
13	XI	-	4.332MHz see application
14	XO	-	4.332MHz see application
15	NC	-	Not connect
16	RCLK	-	1187.5Hz

■ TA2092N (IC703) : Power driver

1. Terminal Layout & Block Diagram

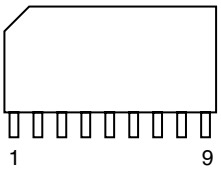


2. Pin function

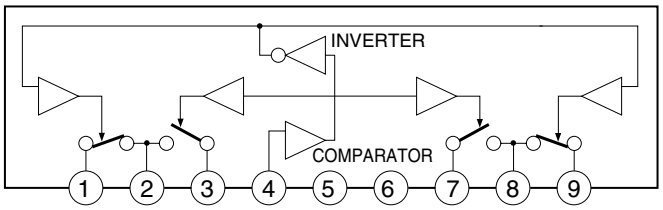
Pin No.	Symbol	I/O	Function
1	PW GND1	-	Power GND
2	OUT(-)1	O	Inverted output for CH1
3	PW VCC1	-	Supply terminal of output stage for CH1
4	OUT(+)1	O	Non-inverted output for CH1
5	VIN1	I	Input for CH1
6	VRI	I	Input reference voltage
7	VCI	O	Output reference voltage
8	VIN2	I	Input for CH2
9	OUT(+)2	O	Non-inverted output for CH2
10	PW VCC2	-	Supply terminal of output stage for CH2
11	OUT(-)2	O	Inverted output for CH2
12	PW GND2	-	Power GND
13	PW GND3	-	Power GND
14	OUT(-)3	O	Inverted output for CH3
15	PW VCC3	-	Supply terminal of output stage for CH3
16	OUT(+)3	O	Non-inverted output for CH3
17	VIN3	I	Input for CH3
18	SGND	-	Supply terminal of small signal GND
19	SVCC1	-	Small signal GND
20	VIN4	I	Input for CH4
21	OUT(+)4	O	Non-inverted output for CH4
22	PW VCC4	-	Supply terminal of output stage for CH4
23	OUT(-)4	O	Inverted output for CH4
24	PW GND4	-	Power GND

■ UPC1330HA (IC201) : REC/PB audio head switch

1. Terminal layout



2. Block diagram

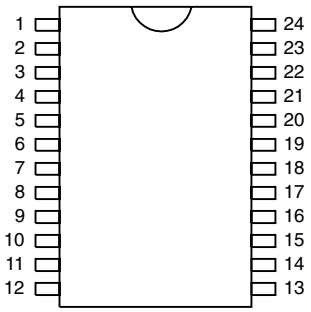


3. Pin function

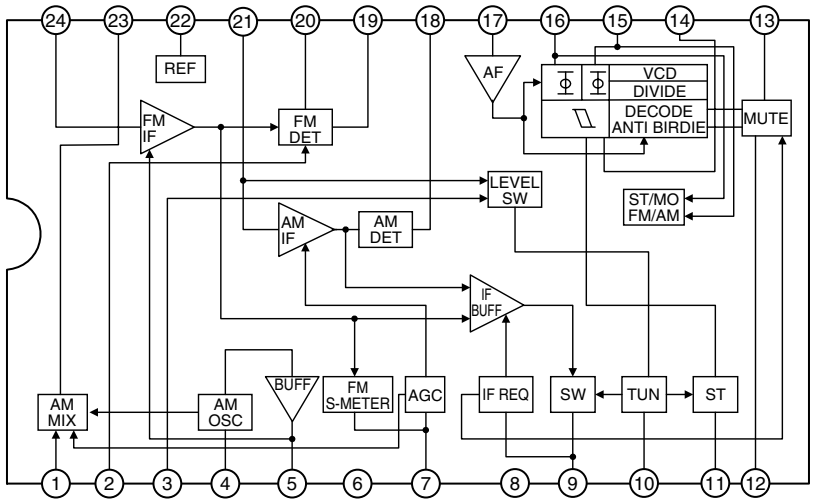
Pin No.	Symbol	I/O	Function
1	SW_{R1}	-	Record SW (Left channel)
2	GND	-	GND
3	SW_{P1}	-	Play SW (Left channel)
4	CONT	-	Record/Play control pin
5	GND	-	GND
6	V_{CC}	-	Power supply
7	SW_{P2}	-	Play SW (Right channel)
8	GND	-	GND
9	SW_{R2}	-	Record SW (Right channel)

■ TA2099 (IC101) : AM/FM tuner

1. Terminal layout



2. Block diagram

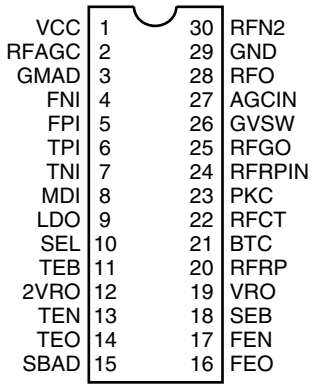


3. Pin function

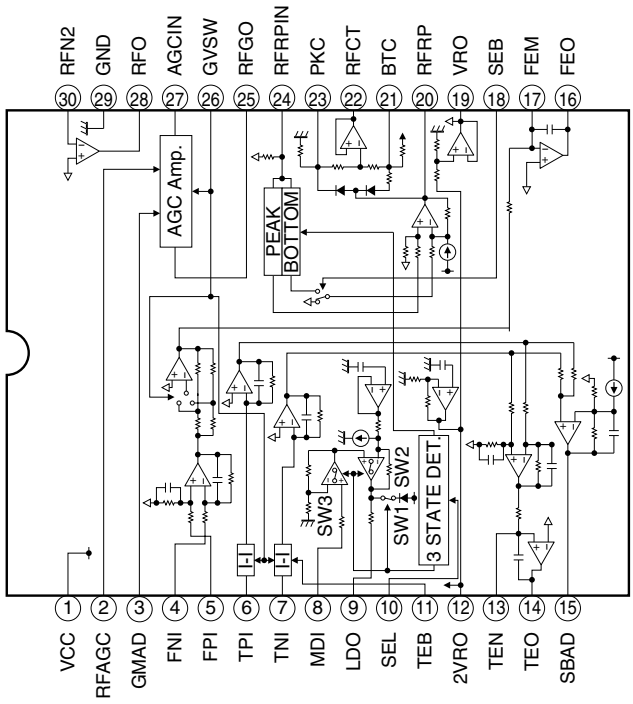
Pin No.	Symbol	I/O	Function
1	AM RF IN	I	AM RF input signal terminal
2	FM BW	O	FM band width adjust terminal
3	FM VL SENS	I	FM LED ON sensitivity adjust terminal
4	AM OSC	I	AM OSC input terminal
5	AM OSC OUT	O	AM OSC output terminal
6	Vcc	I	Power terminal
7	AGC	O	FM S-meter
8	GND	-	Ground
9	IF OUT/REQ	O	IF count output terminal
10	TUN LED	O	Connect tuner LED
11	ST LED	O	Connect stereo LED
12	R OUT	O	R-CH output signal terminal
13	L OUT	O	L-CH output signal terminal
14	BLENDER	O	FM blender control adjust terminal
15	LPF2	O	LPF terminal for synchronous
16	LPF1	O	LPF terminal for phase detector
17	FM ST DET IN	I	FM ST DET input terminal
18	AM DET OUT	O	AM DET output terminal
19	FM DET OUT	O	FM DET output terminal
20	QUAD	O	FM demodulator
21	AM IF IN	I	AM IF input signal terminal
22	Vstb	O	Set to 2V internally
23	AM MIX OUT	O	AM MIX output terminal
24	FM IF IN	I	FM IF input signal terminal

■TA2153FN (IC704) : RF amplifier for digital servo CD system

1. Terminal layout



2. Block diagram



3. Pin function

Pin No.	Symbol	I/O	Function
1	VCC	-	Power supply input terminal
2	RFAGC	I	RF amplitude adjustment control signal input terminal. Controlled by 3-PWM signals. (PWM carrier = 88.2kHz)
3	GMAD	I	Open loop gain adjustment terminal for AGC amplifier
4	FNI	I	Main beam I-V amplifier input terminal
5	FPI	I	Main beam I-V amplifier input terminal
6	TPI	I	Sub beam I-V amplifier input terminal
7	TNI	I	Sub beam I-V amplifier input terminal
8	MDI	I	Monitor photo diode amplifier input terminal
9	LDO	O	Laser diode amplifier input terminal
10	SEL	I	Laser diode control signal input terminal and APC circuit ON/OFF control signal terminal
11	TEB	I	Tracking error balance adjustment signal input terminal. Controlled by 3-PWM signals. (PWM carrier = 88.2kHz)
12	2VRO	O	Reference voltage (2VRO) output terminal 2RVO = 4.2V when Vcc = 5V
13	TEN	I	TE amplifier negative input terminal
14	TEO	O	TE error signal output terminal
15	SBAD	O	Sub beam adder signal output terminal
16	FEO	O	Focus error signal output terminal
17	FEN	I	FE amplifier negative input terminal

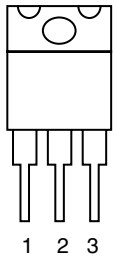
Pin 10 SEL level table:

SEL level	APC circuit	LDO	Detect frequency
GND	OFF	Connected to Vcc through	Low
		resistor (1kohm)	
Hiz	ON	Control signal output	Low
Vcc	ON	Control signal output	High

<table>
<tr><th>Pin No.</th><th>Symbol</th><th>I/O</th><th>Function</th></tr>
<tr><td>18</td><td>SEB</td><td>I</td><td>RFRP output circuit switching terminal
<table>
<tr><th>SEL level</th><th>Bottom detection</th><th>Peak detection</th></tr>
<tr><td>GND</td><td>ON</td><td>ON</td></tr>
<tr><td>Vcc</td><td>OFF</td><td>ON</td></tr>
</table></td></tr>
<tr><td>19</td><td>VRO</td><td>O</td><td>Reference signal (VRO) output terminal</td></tr>
<tr><td>20</td><td>RFRP</td><td>O</td><td>Track count signal output terminal</td></tr>
<tr><td>21</td><td>BTC</td><td>I</td><td>Time constant adjustment terminal for bottom detection</td></tr>
<tr><td>22</td><td>RFCT</td><td>O</td><td>RFRP signal center level output terminal</td></tr>
<tr><td>23</td><td>PKC</td><td>I</td><td>Time constant adjustment terminal for peak detection</td></tr>
<tr><td>24</td><td>RFRPIN</td><td>I</td><td>Input terminal for track count signal output amplifier</td></tr>
<tr><td>25</td><td>RFGO</td><td>O</td><td>Output terminal for RF signal amplitude adjustment amplifier</td></tr>
<tr><td>26</td><td>GVSW</td><td>I</td><td>Amplifier (AGC, FE, TE) gain switching terminal
<table>
<tr><th>GVSW</th><th>Mode</th></tr>
<tr><td>GND</td><td>CD-RW</td></tr>
<tr><td>Hiz</td><td>Normal</td></tr>
<tr><td>Vcc</td><td>Normal</td></tr>
</table></td></tr>
<tr><td>27</td><td>AGCIN</td><td>I</td><td>Input terminal for RF signal amplitude adjustment amplifier</td></tr>
<tr><td>28</td><td>RFO</td><td>O</td><td>Output terminal RF signal amplifier</td></tr>
<tr><td>29</td><td>GND</td><td>-</td><td>Ground terminal</td></tr>
<tr><td>30</td><td>RFN2</td><td>I</td><td>Input terminal for RF signal amplifier</td></tr>
</table>

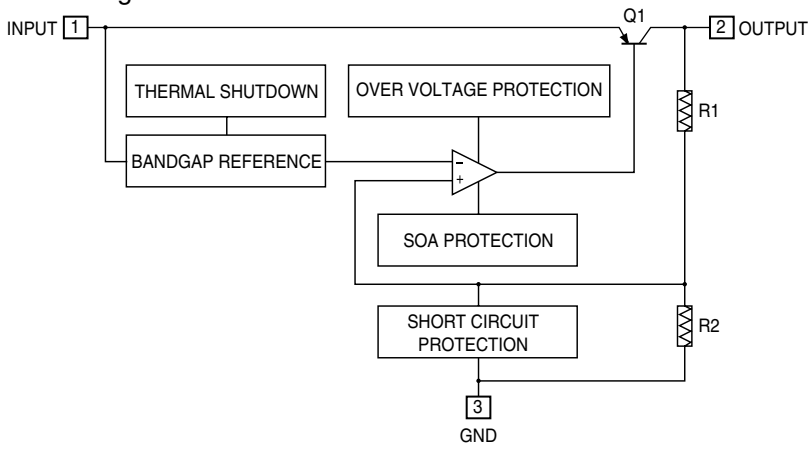
■ NJM7812A (IC302) : Regulator

1. Terminal layout



1.INPUT
2.OUTPUT (+12V)
3.GND

2. Block diagram

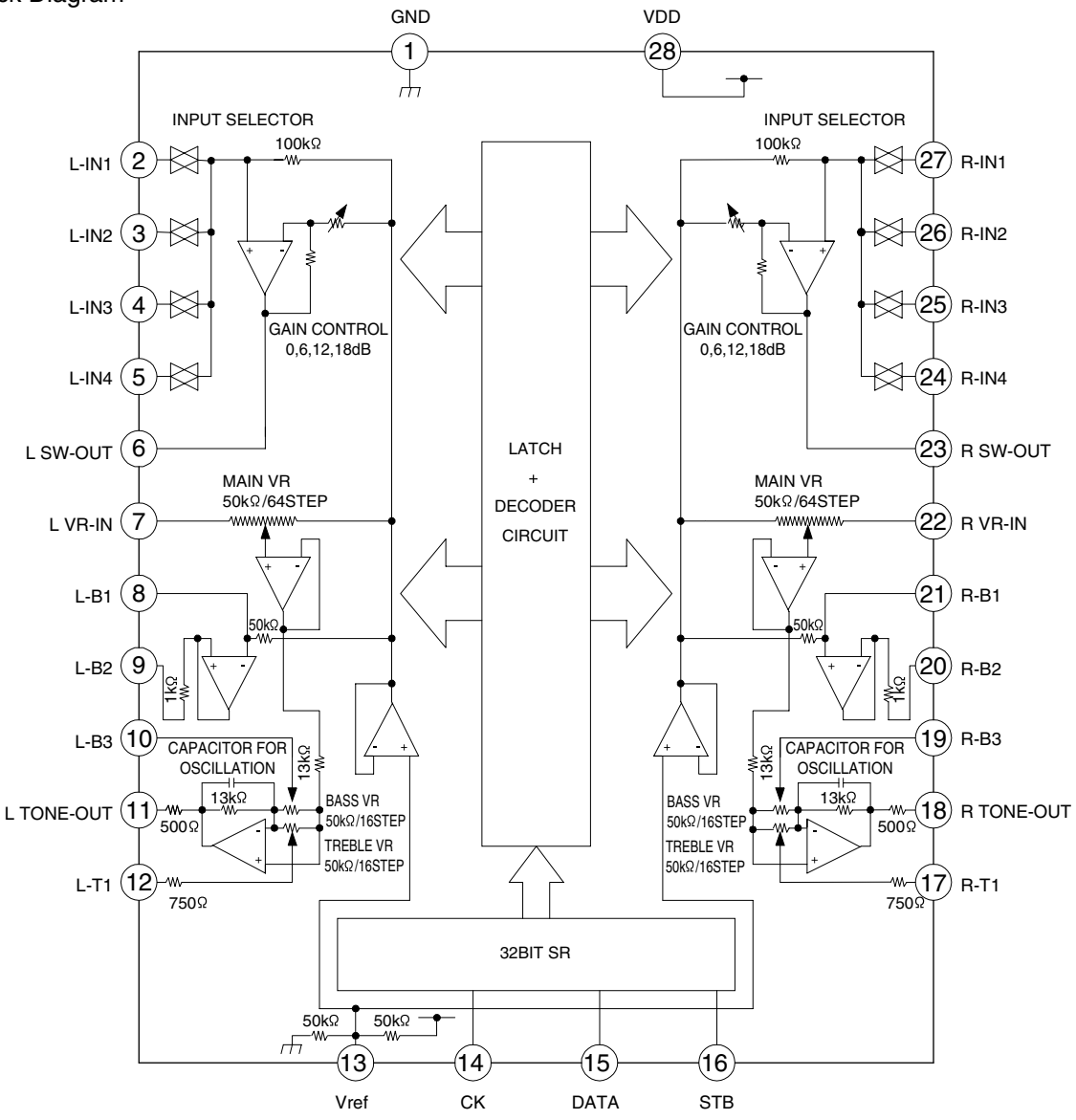


■TC9422F (IC301) : System electronic volume

1.Terminal Layout

GND	1	28	VDD
L-IN1	2	27	R-IN1
L-IN2	3	26	R-IN2
L-IN3	4	25	R-IN3
L-IN4	5	24	R-IN4
L SW-OUT	6	23	R SW-OUT
L VR-IN	7	22	R VR-IN
L-B1	8	21	R-B1
L-B2	9	20	R-B2
L-B3	10	19	R-B3
L TONE-OUT	11	18	R TONE-OUT
L-T1	12	17	R-T1
Vref	13	16	STB
CK	14	15	DATA

2.Block Diagram

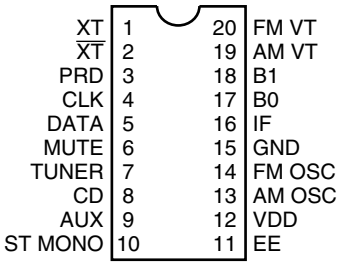


3.Pin Function

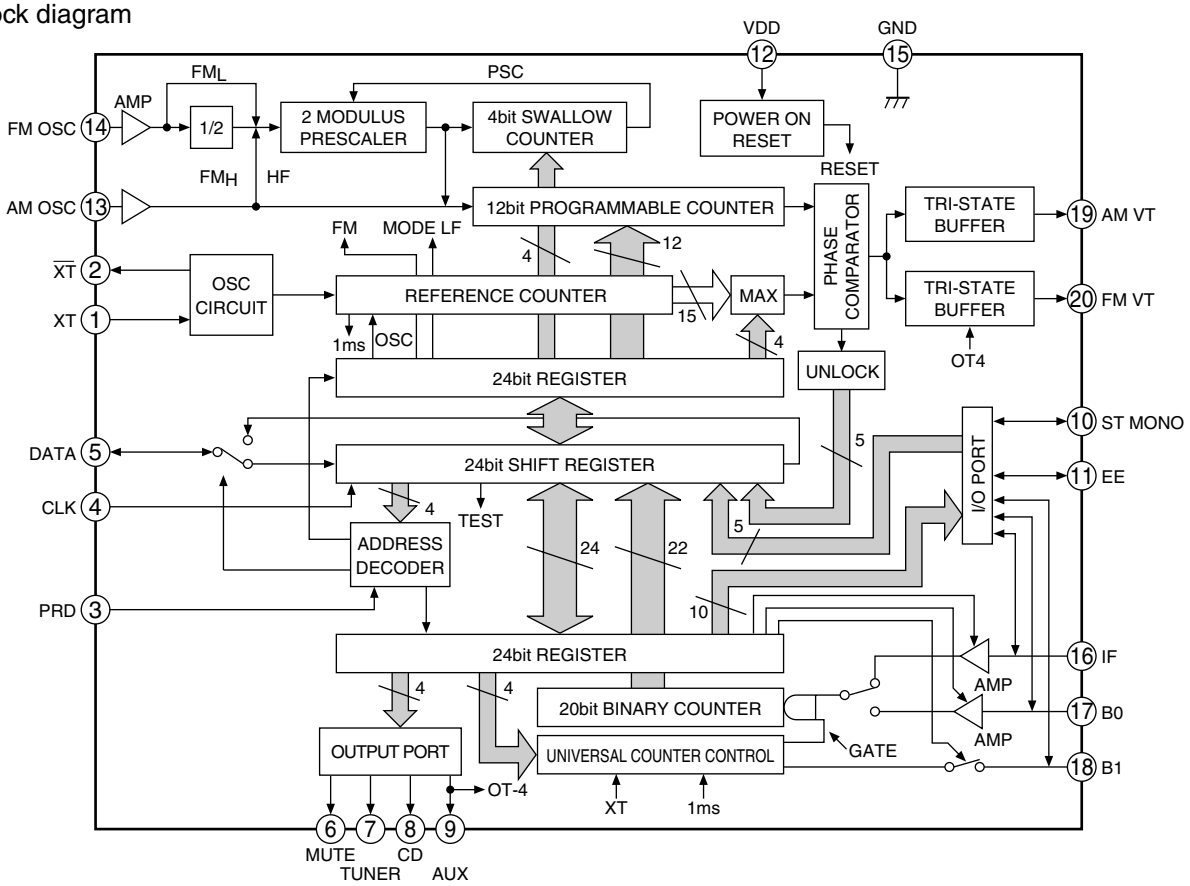
Pin No.	Symbol	I/O	Function
1	GND	-	Ground pin
2	L-IN1	I	Audio signal input pin (L-ch)
3	L-IN2	I	Audio signal input pin (L-ch)
4	L-IN3	I	Audio signal input pin (L-ch)
5	L-IN4	I	Audio signal input pin (L-ch), not connect
6	L SW-OUT	O	Audio signal output pin (L-ch)
7	L VR-IN	I	Main volume input pin (L-ch)
8	L-B1	I	Tone control tap pin 1 for bus
9	L-B2	I	Tone control tap pin 2 for bus
10	L-B3	I	Tone control tap pin 3 for bus
11	L TONE-OUT	O	Tone control output pin (L-ch)
12	L-T1	I	Tone control tap pin for treble (L-ch)
13	Vref	I	Reference voltage input pin
14	CK	I	Clock input pin
15	DATA	I	Data input pin
16	STB	I	Strobe input pin
17	R-T1	I	Tone control tap pin for treble (R-ch)
18	R TONE-OUT	O	Tone control output pin (R-ch)
19	R-B3	I	Tone control tap pin 3 for bus
20	R-B2	I	Tone control tap pin 2 for bus
21	R-B1	I	Tone control tap pin 1 for bus
22	R VR-IN	I	Main volume input pin (R-ch)
23	R SW-OUT	O	Audio signal output pin (R-ch)
24	R-IN4	I	Audio signal input pin (R-ch), not connect
25	R-IN3	I	Audio signal input pin (R-ch)
26	R-IN2	I	Audio signal input pin (R-ch)
27	R-IN1	I	Audio signal input pin (R-ch)
28	VDD	-	Power supply voltage pin

■TC9257F (IC102) : PLL frequency synthesizer

1. Terminal layout



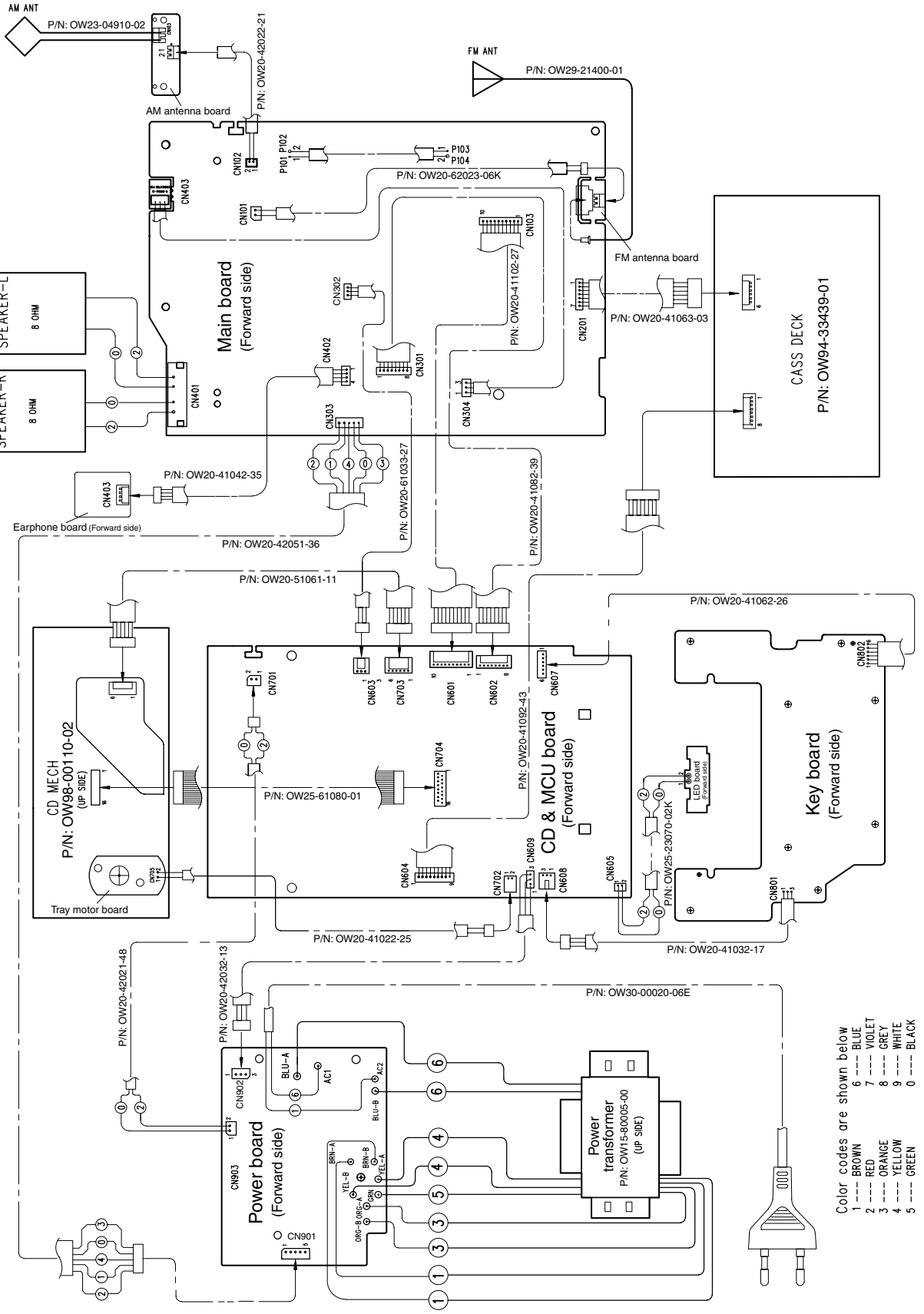
2. Block diagram



3. Pin function

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	XT	I	Crystal oscillator pins	11	EE	I/O	General-purpose I/O port
2	$\overline{XT}$	O	Crystal oscillator pins	12	VDD	-	Power supply pin
3	PRD	I	Period signal input	13	AM OSC	I	Programmable counter input
4	CLK	I	Clock signal input	14	FM OSC	I	Programmable counter input
5	DATA	I/O	Serial data input/output	15	GND	-	Ground pin
6	MUTE	O	General-purpose output port	16	IF	I/O	General-purpose I/O port
7	TUNER	O	General-purpose output port	17	B0	I/O	General-purpose I/O port
8	CD	O	General-purpose output port	18	B1	I/O	General-purpose I/O port
9	AUX	O	General-purpose output port	19	AM VT	O	Phase comparator output
10	ST MONO	I/O	General-purpose I/O port	20	FM VT	O	Phase comparator output

Wiring connections



JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO & COMMUNICATION BUSINESS DIVISION
PERSONAL & MOBILE NETWORK BUSINESS UNIT. 10-1,1Chome,Ohwatari-machi,maebashi-city,371-8543,Japan

No.21190

200301

JVC

SCHEMATIC DIAGRAMS

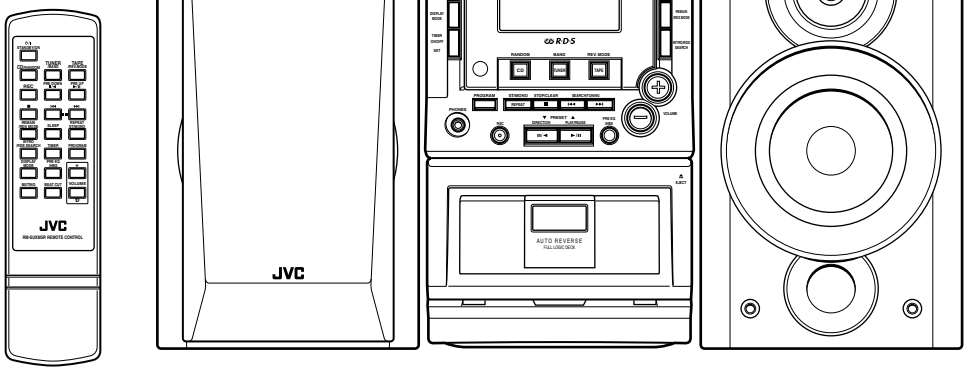
MICRO COMPONENT SYSTEM

UX-M55

CD-ROM No.SML200301

Area suffix

E ---------- Continental Europe
EN ---------- Northern Europe



SP-UXM5 CA-UXM55 SP-UXM5

COMPACT disc DIGITAL AUDIO

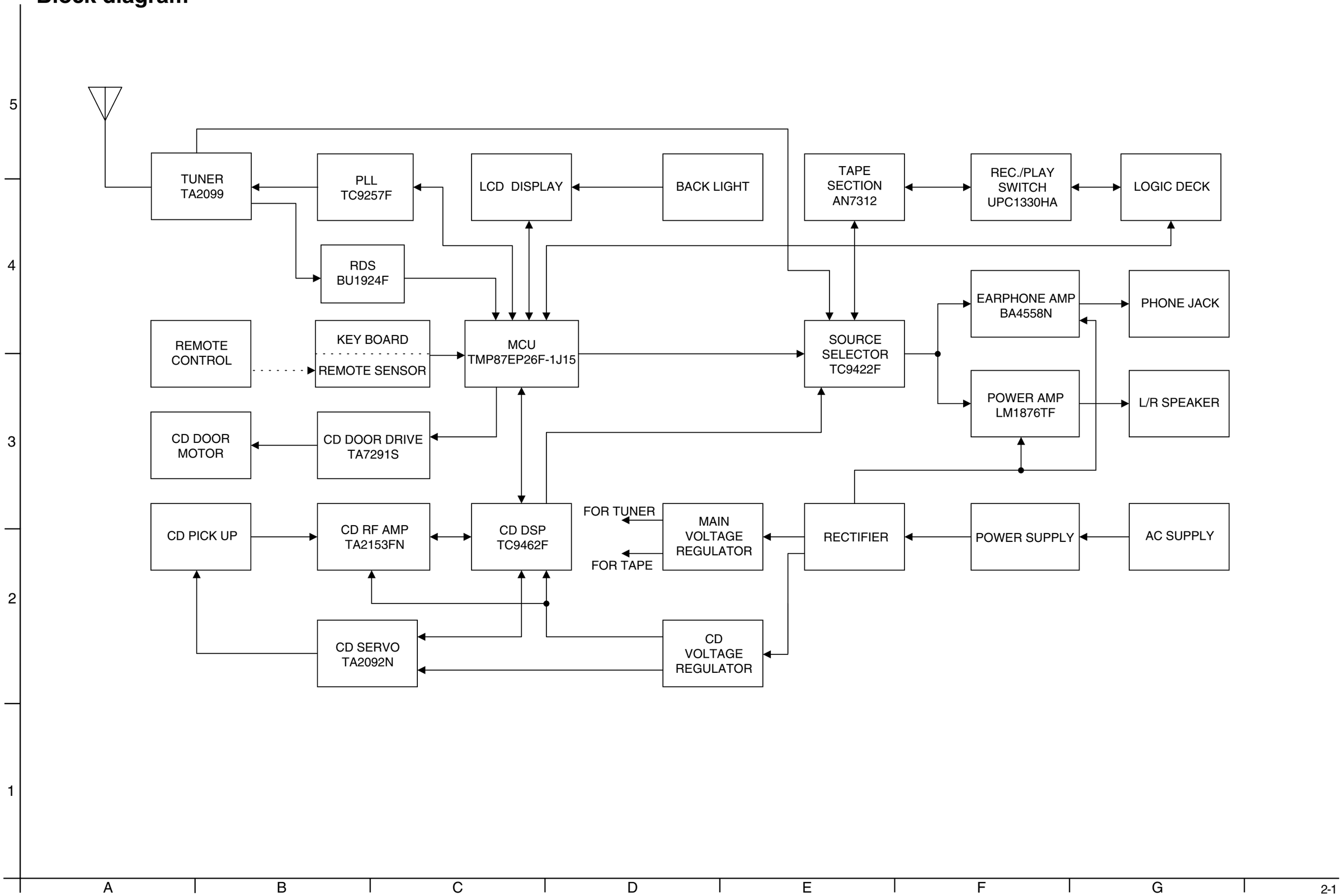
R·D·S

Contents

No.21190SCH
Jan. 2003

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

Voltage charts

	Q101 9018G	Q102 2SA733P	Q103 2SA733P	Q104 2SC945P	Q105 2SC945P	Q106 2SC945P
E	2.1V	12V	4.8V	5.8V	0V	0V
B	2.9V	11.2V	4.4V	6.1V	0.67V	0V
C	8V	11.9V	0V	6.2V	0V	5.3V

Voltage charts

IC101 : TA2099	
PIN1	1.96 V
PIN2	1.81 V
PIN3	0.11 V
PIN4	1.95 V
PIN5	1.35 V
PIN6	5.82 V
PIN7	0.24 V
PIN8	0 V
PIN9	2.54 V
PIN10	2.25 V
PIN11	5.63 V
PIN12	1.33 V
PIN13	1.32 V
PIN14	0 V
PIN15	4.33 V
PIN16	4.37 V
PIN17	1.18 V
PIN18	0.24 V
PIN19	1.37 V
PIN20	1.82 V
PIN21	1.95 V
PIN22	1.95 V
PIN23	5.83 V
PIN24	1.95 V

Voltage charts

	Q107 2SC945P	Q109 2SC945P
E	0V	0.6V
B	0V	1.1V
C	1.6V	5V
	Q110 2SC945P	Q111 2SC945P
E	0V	0.6V
B	0.61V	1V
C	4.88V	5.9V
	Q112 2SC945P	Q113 2SA733P
E	0V	8.1V
B	0.6V	7.3V
C	5.9V	8.1V
	Q114 2SC945P	
E	0V	
B	0.7V	
C	0V	

Voltage charts

IC102 : TC9257F			
PIN1	2.26 V	PIN11	0.02 V
PIN2	2.27 V	PIN12	4.53 V
PIN3	4.54 V	PIN13	0 V
PIN4	4.54 V	PIN14	2.25 V
PIN5	0.43 V	PIN15	0 V
PIN6	0.05 V	PIN16	2.23 V
PIN7	4.23 V	PIN17	4.41 V
PIN8	0.37 V	PIN18	0 V
PIN9	0.02 V	PIN19	1.08 V
PIN10	0.02 V	PIN20	1.08 V

IC401 : BA4558N		IC402 : LM1876TF	
PIN1~3	0 V	PIN1	0 V
PIN4	-7.58 V	PIN2	25.4 V
PIN5~7	0 V	PIN3	0 V
PIN8	7.48 V	PIN4	-25.4 V
		PIN5~14	0 V
		PIN15	25.4 V

Voltage charts

IC201 : UPC1330HA	
PIN1~5	0 V
PIN6	7.30 V
PIN7~9	0 V
IC202 : AN7312	
PIN1~4	0 V
PIN5	1.35 V
PIN6	1.27 V
PIN7	0 V
PIN8	0 V
PIN9	1.23 V
PIN10	1.35 V
PIN11	3.4 V
PIN12	0 V
PIN13	6.87 V
PIN14	6.92 V
IC301 : TC9422F	
PIN1	7.89 V
PIN2	0 V
PIN3	3.9 V
PIN4	2.24 V
PIN5	0 V
PIN6~12	3.9 V
PIN13~15	0 V
PIN16~19	3.97 V
PIN20	3.9 V
PIN21	0 V
PIN22,23	3.9 V
PIN24	0 V
PIN25,26	3.9 V
PIN27,28	0 V

Voltage charts

	Q301 2SC945P	Q302 2SC945P	Q303 2SC1383R
E	0.68V	0.7V	8.4V
B	1.3V	1.3V	9V
C	2.8V	2.5V	11.6V

Voltage charts

	Q304 2SC945P	Q305 2SB1240Q	Q401 8050D
E	0V	16.4V	0V
B	0.7V	15.7V	0V
C	0.1V	16.4V	0V
	Q402 8050D	Q403 8050D	Q404 8050D
E	0V	0V	0V
B	0V	0V	0V
C	0V	0V	0.9V
	Q405 2SA733P	Q406 2SC945P	Q407 2SC945P
E	12V	0V	0V
B	11.94V	0V	0.65V
C	-1.4V	11.93V	0V
	Q410 8050D	Q411 8050D	
E	0V	-17.7V	
B	0V	-18.2V	
C	21V	-23.5V	

Voltage charts

IC302 : NJM7812A		IC403 : BA4558N	
PIN1	17.43 V	PIN1~8	-
PIN2	0 V		
PIN3	12.13 V		

Voltage charts

	Q201 8050D	Q202 2SC945P	Q203 2SC945P	Q204 2SC945P	Q205 2SC945P	Q206 8050D	Q207 2SC945P	Q208 2SC945P	Q209 2SC945P	Q210 2SC945P	Q211 2SA733P	Q212 2SC945P	Q213 2SC945P	Q214 2SC945P	Q215 2SC945P
E	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	8.4V	0V	0V	0V	0V
B	0V	0.64V	0.63V	0V	0V	0V	0.64V	0V	0V	0V	8.3V	0V	0V	0.65V	0V
C	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	8.3V	7.8V	0V	0.5V

To CD & MCU board CN603

To CD & MCU board CN103

To Earphone board CN403

To Main board CN402

Earphone board

To CD & MCU board CN602

To Power board CN901

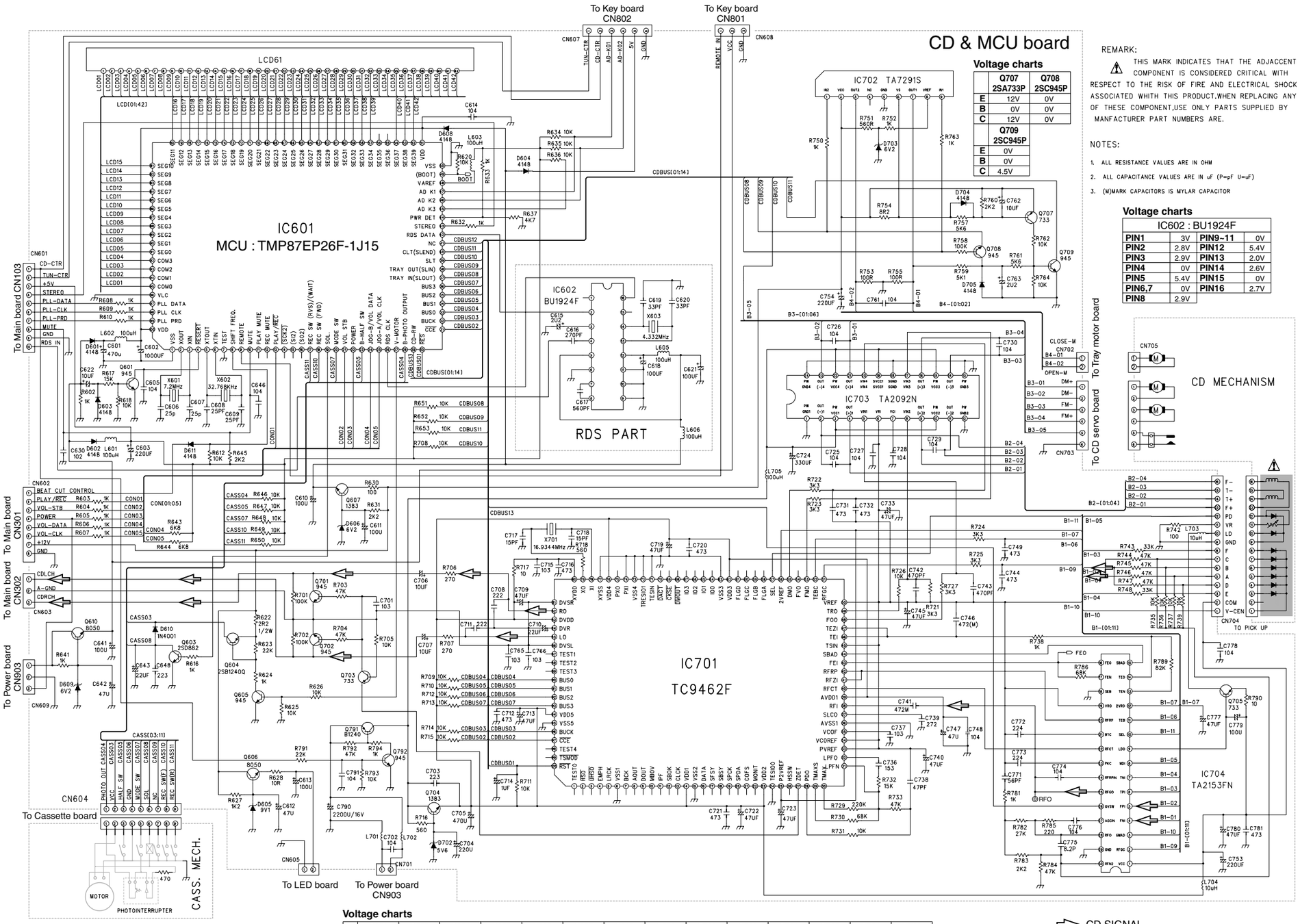
8 OHM SPEAKER

ERASE HEAD

AM SIGNAL
FM/RADIO SIGNAL
RADIO SIGNAL
TAPE PB SIGNAL
TAPE REC SIGNAL
CD SIGNAL
MAIN SIGNAL
HEAD PHONE SIGNAL

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

■ CD & MCU section



Voltage charts

	Q601 2SC945P	Q603 2SD882Q	Q604 2SB1240Q	Q605 2SC945P	Q606 8050D	Q607 2SC1383R	Q610 8050D	Q701 2SC945P	Q702 2SC945P	Q703 2SA733P	Q704 2SC1383R	Q705 2SA733P	Q791 2SB1240Q	Q792 2SC945P
E	0V	0V	12V	0V	8.5V	5.5V	5.3V	0V	0V	0V	0V	0V	11.1V	0V
B	0V	0V	12V	0V	9.1V	6.2V	6V	0V	0V	0V	0V	0V	11V	0V
C	4.7V	0V	0V	12V	12V	7.8V	6.8V	0V	0V	0V	0V	0V	0V	10.8V

Voltage charts

	Q707 2SA733P	Q708 2SC945P
E	12V	0V
B	0V	0V
C	12V	0V

	Q709 2SC945P
E	0V
B	0V
C	4.5V

REMARK:

⚠ THIS MARK INDICATES THAT THE ADJACCENT COMPONENT IS CONSIDERED CRITICAL WITH RESPECT TO THE RISK OF FIRE AND ELECTRICAL SHOCK ASSOCIATED WHITH THIS PRODUCT.WHEN REPLACING ANY OF THESE COMPONENT,USE ONLY PARTS SUPPLIED BY MANFACTURER PART NUMBERS ARE.

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

Voltage charts

IC602 : BU1924F			
PIN1	3V	PIN9~11	0V
PIN2	2.8V	PIN12	5.4V
PIN3	2.9V	PIN13	2.0V
PIN4	0V	PIN14	2.6V
PIN5	5.4V	PIN15	0V
PIN6,7	0V	PIN16	2.7V
PIN8	2.9V		

Voltage charts

IC601 : TMP87EP26F-1J15			
PIN1	0V	PIN51	1.3V
PIN2	2.4V	PIN52~54	2.38V
PIN3	2V	PIN55,56	2.36V
PIN4	4.6V	PIN57~60	2.34V
PIN5	2.3V	PIN61	2.33V
PIN6	2.81V	PIN62	2.34V
PIN7,8	0V	PIN63	2.4V
PIN9	1.8V	PIN64	2.34V
PIN10	0V	PIN65	2.31V
PIN11	4.77V	PIN66,67	2.41V
PIN12	4.7V	PIN68	2.45V
PIN13	3.59V	PIN69	2.33V
PIN14~16	0V	PIN70	2.34V
PIN17,18	5.28V	PIN71	2.37V
PIN19	0V	PIN72	2.38V
PIN20	5.28V	PIN73	2.3V
PIN21	0V	PIN74	2.38V
PIN22	4.7V	PIN75	2.32V
PIN23	5.28V	PIN76	2.31V
PIN24~27	0V	PIN77	2.44V
PIN28	5.28V	PIN78	2.45V
PIN29	0V	PIN79~81	2.38V
PIN30	5V	PIN82,83	2.4V
PIN31	0V	PIN84,85	2.36V
PIN32~36	4.8V	PIN86	2.41V
PIN37,38	0V	PIN87	2.43V
PIN39	5.26V	PIN88	2.3V
PIN40	5.28V	PIN89	2.32V
PIN41	0V	PIN90	2.44V
PIN42	1.1V	PIN91	2.47V
PIN43	0V	PIN92	2.43V
PIN44	4.43V	PIN93	2.48V
PIN45	5.26V	PIN94	2.37V
PIN46,47	5.27V	PIN95~97	0V
PIN48	5.36V	PIN98	5.27V
PIN49	5.35V	PIN99,100	4.78V
PIN50	0V		

Voltage charts

IC701 : TC9462F			
PIN1	4.78V	PIN51	1.6V
PIN2	4.86V	PIN52~55	2V
PIN3	4.84V	PIN56	4V
PIN4	0V	PIN57	2.4V
PIN5	2.45V	PIN58~61	0V
PIN6	0V	PIN62	5V
PIN7	2.48V	PIN63	0V
PIN8~11	0V	PIN64	0.7V
PIN12	2.21V	PIN65~67	2.4V
PIN13	1.27V	PIN68~70	4.8V
PIN14	4.9V	PIN71~74	0V
PIN15,16	0V	PIN75,76	4.9V
PIN17	2.28V	PIN77	0V
PIN18	0V	PIN78	2V
PIN19	2.49V	PIN79	2.36V
PIN20	0.48V	PIN80	4.8V
PIN21	1.65V	PIN81	0V
PIN22	0V	PIN82	2.6V
PIN23	4.9V	PIN83	4.9V
PIN24	0V	PIN84	2.49V
PIN25	4V	PIN85	2.6V
PIN26	2V	PIN86	0V
PIN27	0V	PIN87~89	4.9V
PIN28~34	2V	PIN90,91	4.7V
PIN35	1.5V	PIN92	4.5V
PIN36	0V	PIN93	4.6V
PIN37,38	2V	PIN94	4.98V
PIN39	4.9V	PIN95	0V
PIN40,41	2V	PIN96	4.6V
PIN42	2.5V	PIN97	4.15V
PIN43	2V	PIN98,99	4.96V
PIN44	2.2V	PIN100	4.94V
PIN45~50	2V		

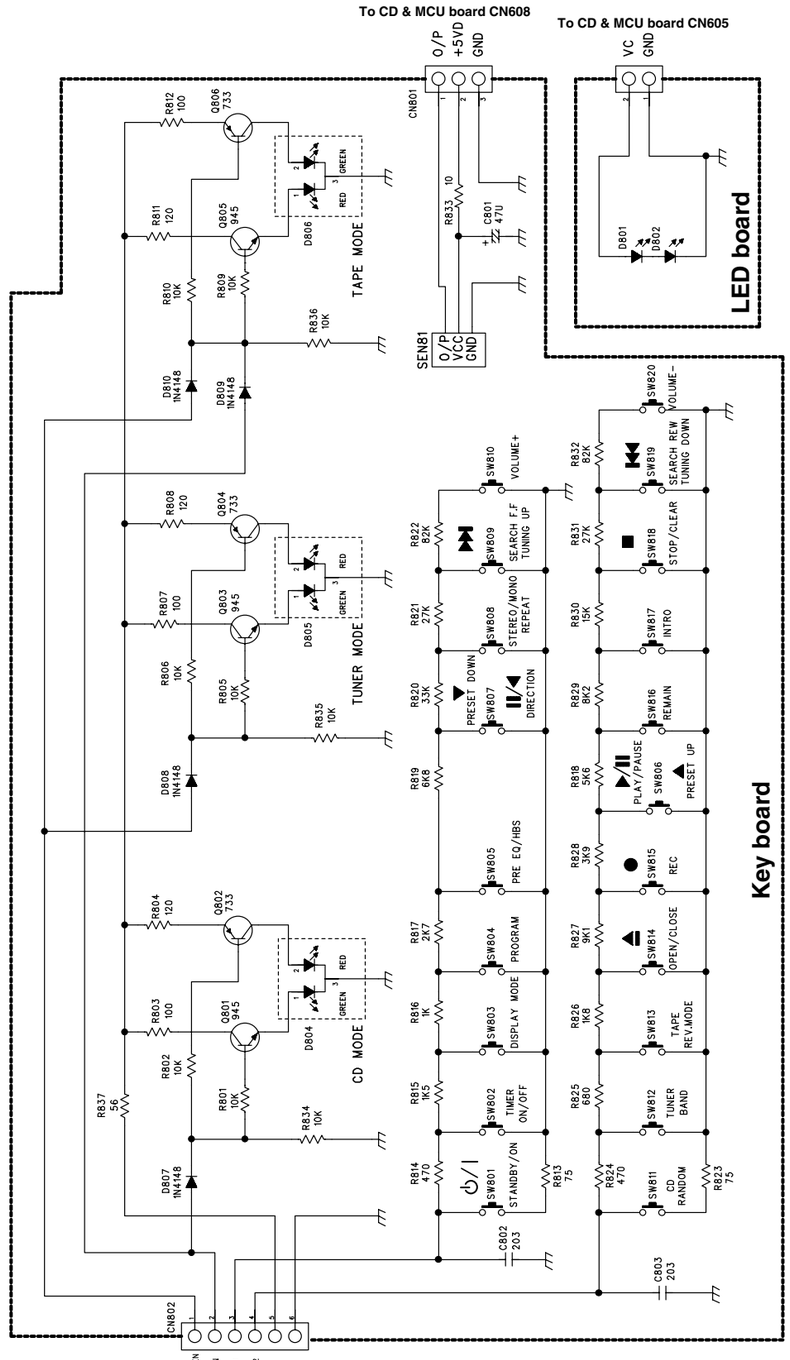
Voltage charts

IC704 : TA2153FN	
PIN1	4.8V
PIN2	3.2V
PIN3~7	2.1V
PIN8	0.1V
PIN9	3.9V
PIN10	2.4V
PIN11	2.3V
PIN12	4.2V
PIN13,14	2.1V
PIN15	1.9V
PIN16	2V
PIN17	2.1V
PIN18	0V
PIN19	2.1V
PIN20	1.8V
PIN21	2.6V
PIN22	1.8V
PIN23	1.2V
PIN24	2.1V
PIN25	1.9V
PIN26	4.7V
PIN27	2.1V
PIN28	2.6V
PIN29	2.5V
PIN30	2.1V

IC702 : TA7291S			
PIN1	0V	PIN7	0V
PIN2	12.07V	PIN8	6.13V
PIN3~5	0V	PIN9	0V
PIN6	12.06V		

IC703 : TA2092N			
PIN1	0V	PIN13	0V
PIN2	3.42V	PIN14	3.7V
PIN3	7.69V	PIN15	7.7V
PIN4	3.72V	PIN16	3.43V
PIN5	2.09V	PIN17	1.99V
PIN6	2.05V	PIN18	0V
PIN7	3.58V	PIN19	7.71V
PIN8	2.03V	PIN20	2.14V
PIN9	3.52V	PIN21	3.92V
PIN10	7.69V	PIN22	7.7V
PIN11	3.64V	PIN23	3.3V
PIN12	0V	PIN24	0V

■ Key & LED section



To CD & MCU board CN607

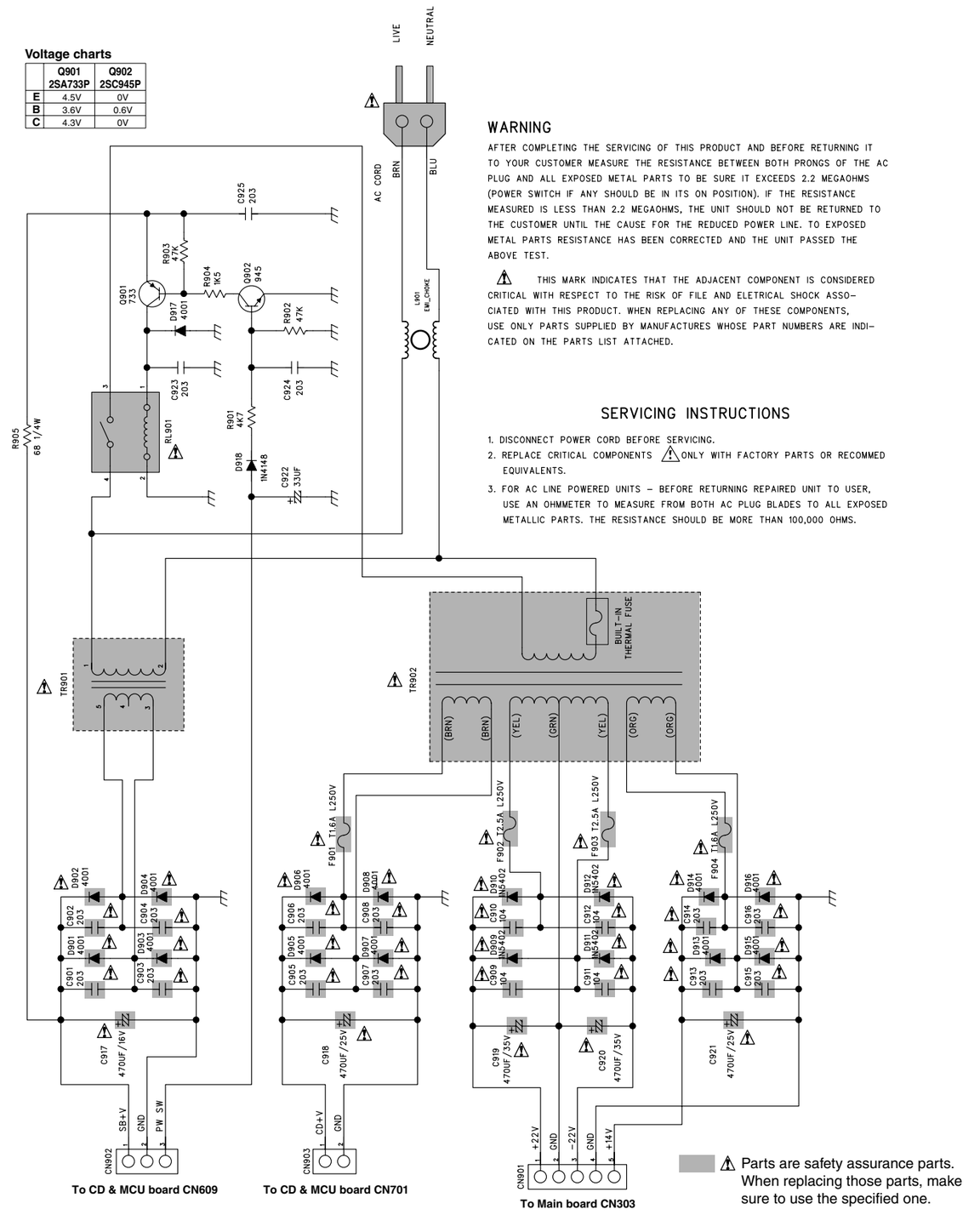
Voltage charts

	Q801 2SC945P	Q802 2SA733P	Q803 2SC945P	Q804 2SA733P	Q805 2SC945P	Q806 2SA733P
E	0.87V	2V	2V	3.14V	1.8V	3.14V
B	0.64V	1.2V	2.7V	3.16V	2.5V	3.16V
C	3.1V	1.8V	2.2V	-1V	1.97V	-0.87V

■ Power section

Voltage charts

	Q901 2SA733P	Q902 2SC945P
E	4.5V	0V
B	3.6V	0.6V
C	4.3V	0V



To CD & MCU board CN609

To CD & MCU board CN701

To Main board CN303

WARNING

AFTER COMPLETING THE SERVICING OF THIS PRODUCT AND BEFORE RETURNING IT TO YOUR CUSTOMER MEASURE THE RESISTANCE BETWEEN BOTH PRONGS OF THE AC PLUG AND ALL EXPOSED METAL PARTS TO BE SURE IT EXCEEDS 2.2 MEGAOHMS (POWER SWITCH IF ANY SHOULD BE IN ITS ON POSITION). IF THE RESISTANCE MEASURED IS LESS THAN 2.2 MEGAOHMS, THE UNIT SHOULD NOT BE RETURNED TO THE CUSTOMER UNTIL THE CAUSE FOR THE REDUCED POWER LINE. TO EXPOSED METAL PARTS RESISTANCE HAS BEEN CORRECTED AND THE UNIT PASSED THE ABOVE TEST.

⚠ THIS MARK INDICATES THAT THE ADJACENT COMPONENT IS CONSIDERED CRITICAL WITH RESPECT TO THE RISK OF FILE AND ELETRICAL SHOCK ASSOCIATED WITH THIS PRODUCT. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY PARTS SUPPLIED BY MANUFACTURES WHOSE PART NUMBERS ARE INDICATED ON THE PARTS LIST ATTACHED.

SERVICING INSTRUCTIONS

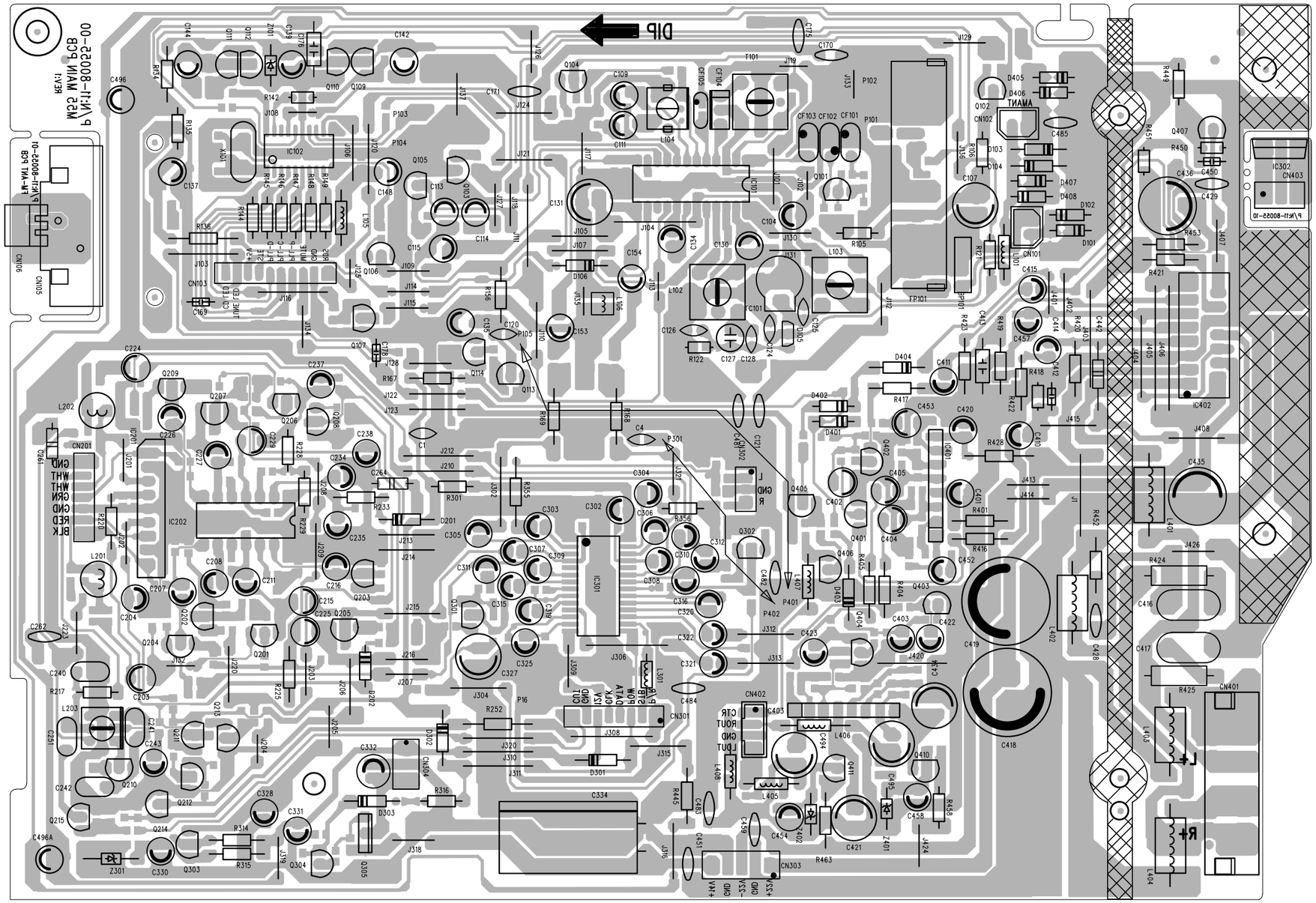
1. DISCONNECT POWER CORD BEFORE SERVICING.
2. REPLACE CRITICAL COMPONENTS ⚠ ONLY WITH FACTORY PARTS OR RECOMMED EQUIVALENTS.
3. FOR AC LINE POWERED UNITS – BEFORE RETURNING REPAIRED UNIT TO USER, USE AN OHMMETER TO MEASURE FROM BOTH AC PLUG BLADES TO ALL EXPOSED METALLIC PARTS. THE RESISTANCE SHOULD BE MORE THAN 100,000 OHMS.

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

Printed circuit boards

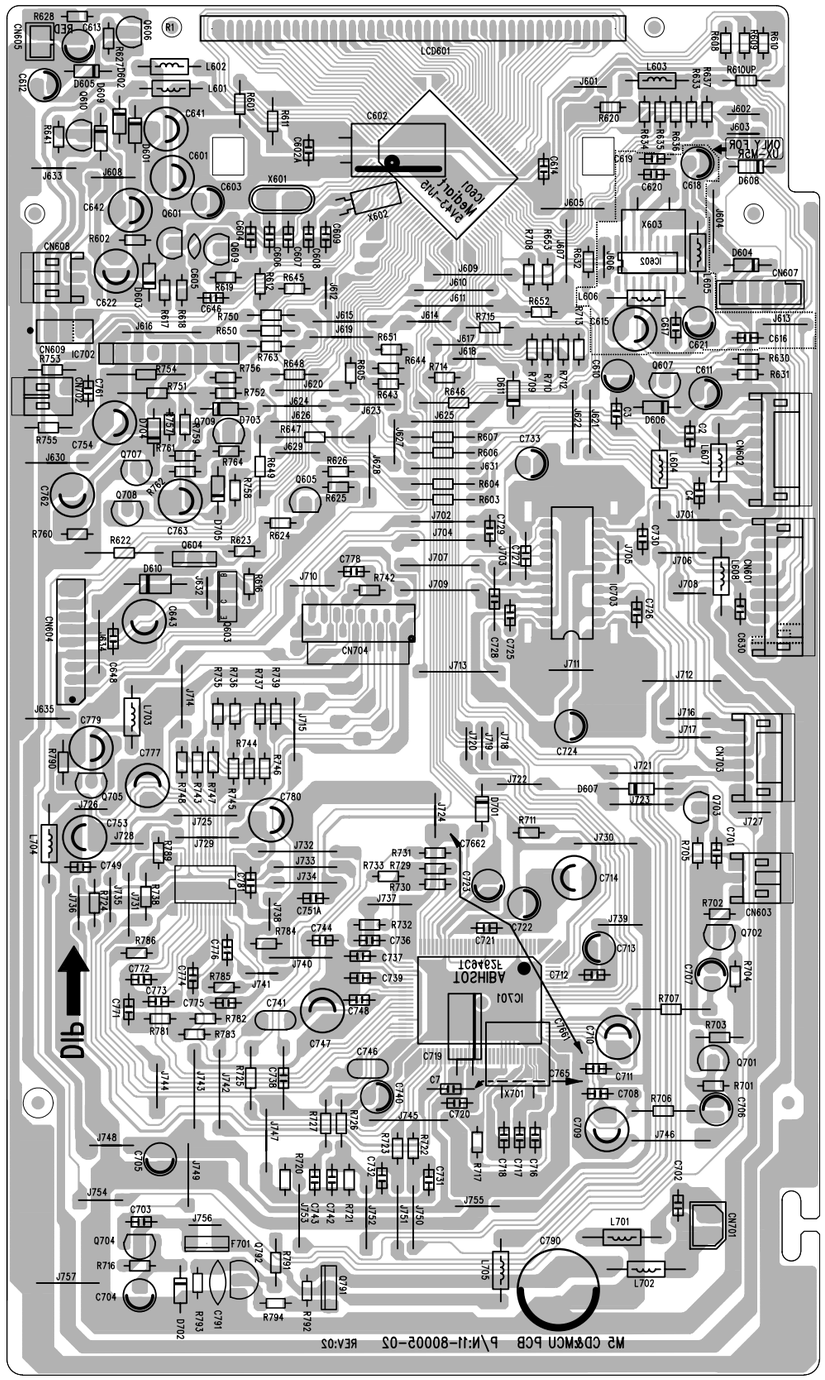
■ Main board

Reverse side



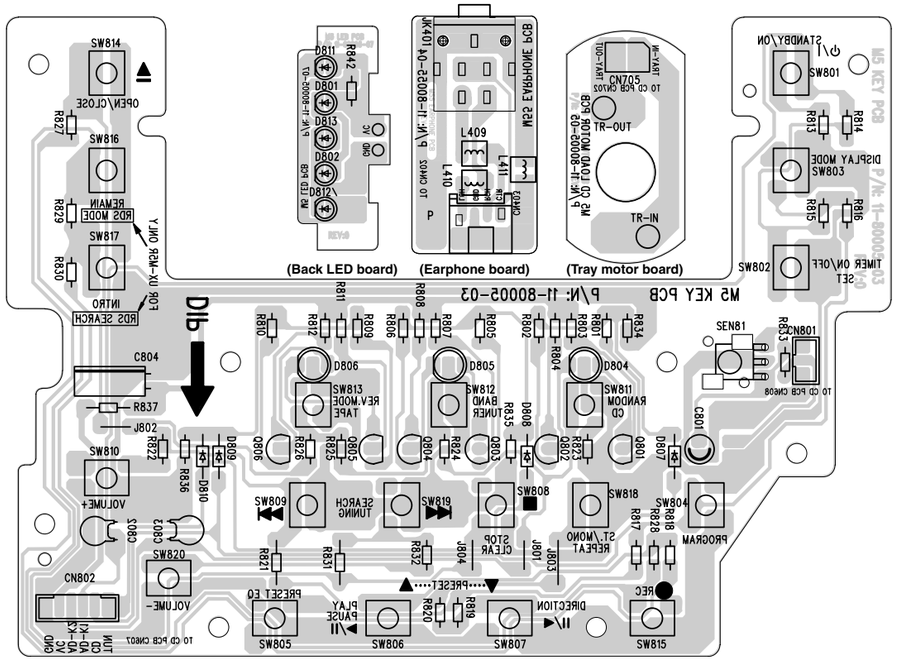
■ CD & MCU board

Reverse side

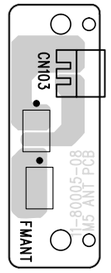


■ Key board

Reverse side



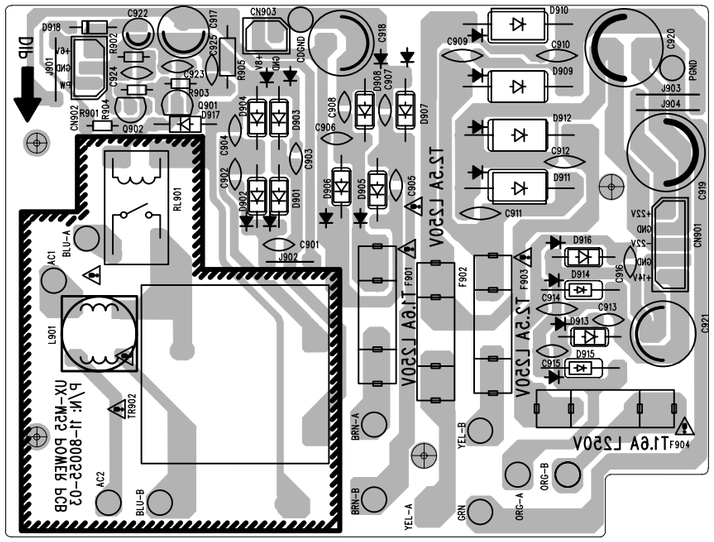
(Back LED board) (Earphone board) (Tray motor board)



(Antenna board)

■ Power board

Reverse side



< MEMO >

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO & COMMUNICATION BUSINESS DIVISION
PERSONAL & MOBILE NETWORK BUSINESS UNIT. 10-1,1Chome,Ohwatari-machi,maebashi-city,371-8543,Japan

No.21190SCH

200301

PARTS LIST

[UX-M55]

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

Area suffix

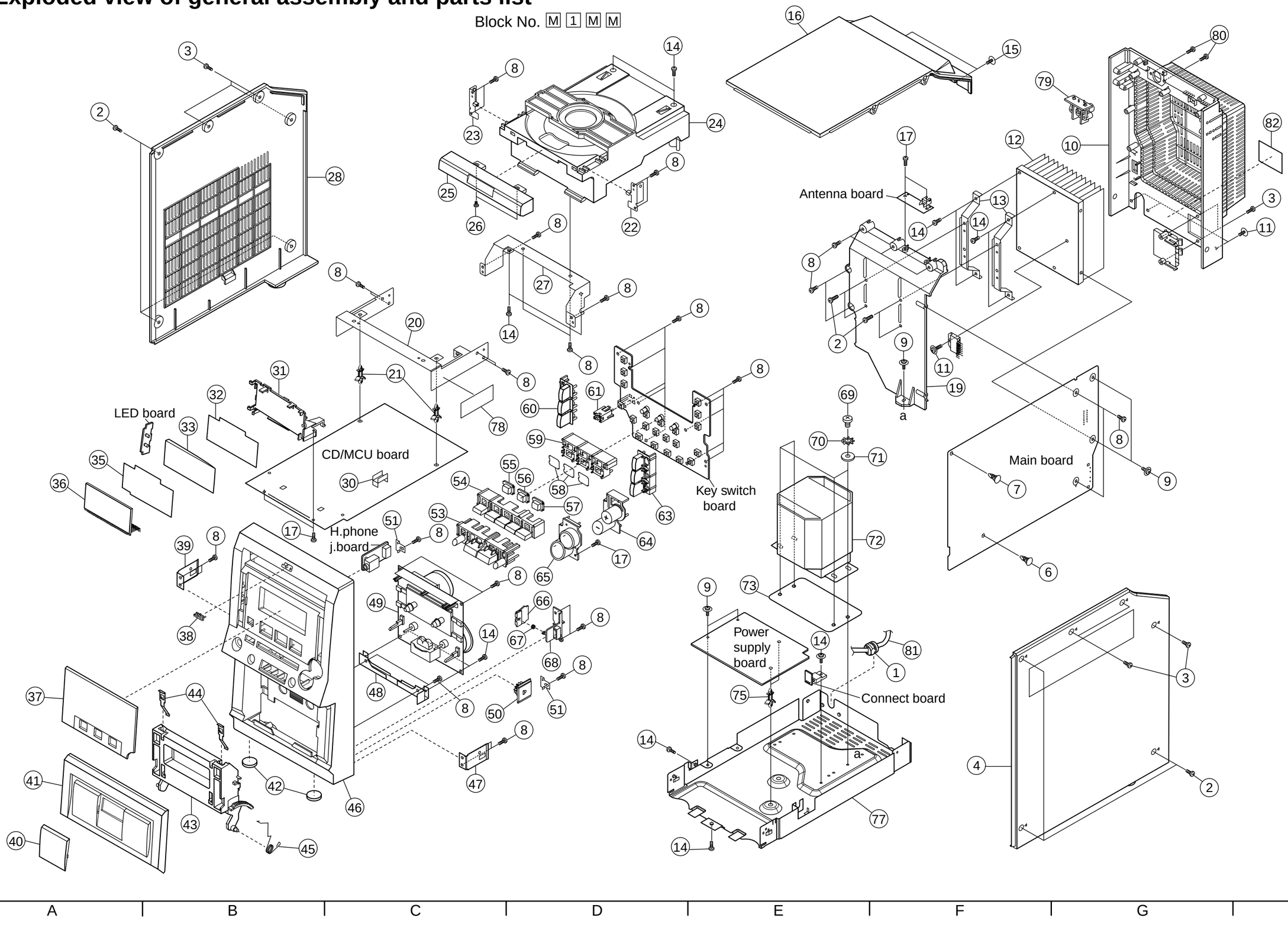
E ---------- Continental Europe
EN ---------- Northern Europe

- Contents -

< MEMO >

Exploded view of general assembly and parts list

Block No. M 1 M M



■ Parts list (General assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
⚠	1	OW84-10002-02	S. R BUSHING	1	SR-F41	
	2	OW40-23010-52	SCREW	10	M3X10 BH/MS	
	3	OW40-13012-01	SCREW	8	M3X12 BH/ST	
	4	OW61-30000-02	RIGHT SIDE PLATE	1		
	6	OW84-00006-01	PCB LOCK SUPPORT	1	RS-5	
	7	OW84-30000-02	PCB LOCK SUPPORT	1	RS-3	
	8	OW40-13008-91	SCREW	41	M3X8 BH/ST	
	9	OW40-03006-53	SCREW	5	M3X6 WH/MS	
	10	OW61-50000-05	REAR CABINET	1		
	11	OW40-03008-53	SCREW	4	M3X8 WH/MS	
	12	OW39-50000-01	HEAT SINK	1		
	13	OW39-50000-02	HEAT SINK	2		
	14	OW40-03006-81	SCREW	13	M3X6 BH/MS	
	15	OW40-13012-03	SCREW	2	M3X12 WH/ST	
	16	OW60-30000-08	TOP CABINET	1		
	17	OW40-12608-21	SCREW	5	M2.6X8 BH/ST	
	19	OW48-50000-01	MAIN PCB BRACKET	1		
	20	OW39-30000-03	CD REAR MOUNT BKT	1		
	21	OW84-30000-05	PCB LOCK SUPPORT	2	CS-0813	
	22	OW39-30000-01	CD F.MOUNT BKT	1	RIGHT	
	23	OW39-30000-00	CD F.MOUNT BKT	1	LEFT	
	24	OW98-00110-03	CD MECHA	1	TCP11TK4+TD001	
	25	OW66-30000-04	CD DOOR	1		
	26	OW40-12605-11	SCREW	2	M2.6X5 BH/ST	
	27	OW39-30000-02	CD F.MOUNT BKT	1	FRONT	
	28	OW61-30000-01	SIDE PLATE	1	LEFT	
	30	OW39-00013-00A	CDT13 HEAT SINK	1		
	31	OW48-30000-01	LCD BRACKET	1		
	32	OW68-50000-00	LIGHT GUIDE PAPER	1		
	33	OW43-30000-05	LIGHT GUIDE	1		
	35	OW68-30000-03	LCD FILTER	1		
	36	OW91-80005-00	LCD	1	92194TT-P YEEBO	
	37	OW43-30000-19	DISPLAY LENS	1		
	38	OW55-30000-00	BADGE	1		
	39	OW39-30000-04	FP MOUNT BRACKET	1	LEFT SIDE BASE	
	40	OW43-30000-11	CASS DOOR LENS	1		
	41	OW66-30000-01	CASS DOOR COVER	1		
	42	OW81-00155-01	RUBER FOOT	2		
	43	OW66-00155-03	TECHANICAL DOOR	1		
	44	OW39-30000-07	CASS TAPE SPRING	2		
	45	OW36-30000-00	TORSION SPRING	1		
	46	OW60-30000-07	FRONT CABINET	1		
	47	OW39-30000-05	FP MOUNT BRACKET	1	RIGHT SIDE BASE	
	48	OW39-00055-01	MECHA BRACKET	1		
	49	OW94-33439-01	CASSETTE MECHA	1	12V/AUTO-REV	
	50	OW63-00155-01	DAMP GEAR	1		
	51	OW39-00155-13	GEAR HOLDER	2		
	53	OW53-30000-06	KEY BUTTON	1	RECORD/DIRECTION	

■ Parts list (General assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	54	OW53-30000-09	KEY BUTTON	1	STOP/PROGRAM	
	55	OW43-30000-14	LENS FUNCTION	1	CD	
	56	OW43-30000-15	LENS FUNCTION	1	TUNER	
	57	OW43-30000-16	LENS FUNCTION	1	TAPE	
	58	OW68-30000-02	F.KEY FILTER	3	FUNCTION	
	59	OW53-30000-04	KEY BUTTON	1	FUNCTION	
	60	OW53-30000-01	KEY BUTTON	1	OPEN/CLOSE	
	61	OW48-30000-02	REMOTE SENSOR	1		
	63	OW53-30000-00	KEY BUTTON	1	STANDBY	
	64	OW53-30000-05	KEY BUTTON	1	VOLUME	
	65	OW48-30000-00	ORNAMENTAL	1	RING	
	66	OW49-00155-01	LATCHING CAM	1		
	67	OW36-00155-03A	COMPRESS SPRING	1		
	68	OW49-00155-02	LATCH CAM HOLDER	1		
	69	OW40-10408-81	SCREW	4	M4X8 BH	
	70	OW35-20001-01	TOOTH WASHER	4		
	71	OW35-00010-03	METAL WASHER	4		
⚠	72	OW15-80005-00	POWER TRANS.	1		
	73	OW39-00006-02	TRANS. BRACKET	1		
	75	OW84-30000-04	PCB LOCK SUPPOR	2	CS-0610	
	77	OW39-50000-00	BOTTOM CASE	1		
	78	OW68-05000-07	SPONGE	1		
	79	OW11-80055-01	FM-ANT	1		
	80	OW40-12612-01	SCREW	2	F2.6X12 BH/ST	
⚠	81	OW30-00020-06E	AC POWER CORD	1	7 VED BLK	
	82	OW87-50000-35	RATING LABEL	1		

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	BP101	OW09-80001-00T	FM BP FILTER	BPF-10833KF	
	CF101	OW09-50107-20J	CERAMIC FILTER	LT10.7MS3	
	CF102	OW09-50107-20J	CERAMIC FILTER	LT10.7MS3	
	CF103	OW09-50107-20J	CERAMIC FILTER	LT10.7MS3	
	CF104	OW09-50450-00J	CERAMIC FILTER	SFU450B 450HK2	
	CF105	OW09-50107-07J	CER DIS	JT10.7 MS3	
	CN101	OW20-62023-06K	CONNECTOR HOUG	P=2.5 L=200 2PIN	
	CN102	OW20-42022-21	CONNECTOR HOUG	P=2.5 2PIN	
	CN103	OW20-41102-27	CONNECTOR HOUG	P=2 L=110 10PIN	
	CN105	OW12-00007-21	FM ANT.SOCKET	TC-103 75 OHM	
	CN106	OW20-22020-01	CONNECTOR	P=2.5 2PIN	
	CN201	OW20-41063-03	CONNECTOR HOUG	P=2 L=390 6PIN	
	CN301	OW20-41082-39	CONNECTOR HOUG	P=2 L=270 8PIN	
	CN302	OW20-61033-27	CONNECTOR HOUG	L=370 3PIN	
	CN303	OW20-42051-36	CONNECTOR HOUG	P=2.5 5PIN	
	CN401	OW12-00006-02	CONNECTOR	CJ-9007-040	
	CN402	OW20-41042-35	CONNECTOR HOUG	P=2 L=410 4PIN	
	C101	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C102	OW05-03103-10T	C CAPACITOR	B103K 500A	
	C105	OW05-03020-03T	CHIP CAPACITOR	2PF N500 J020	
	C107	OW06-16477-00	E CAPACITOR	470MF 16V	
	C108	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C109	OW05-02333-10	M CAPACITOR	0.033MF 10%	
	C111	OW06-50105-02	E CAPACITOR	1MF 50V	
	C113	OW06-50474-20	E CAPACITOR	0.47MF 50V	
	C114	OW06-50105-02	E CAPACITOR	1MF 50V	
	C115	OW06-50104-03	E CAPACITOR	0.1MF 50V	
	C116	OW05-03300-10	CHIP CAPACITOR	30PF 5%	
	C117	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C119	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C121	OW05-00102-20	C CAPACITOR	0.001MF 20%	
	C124	OW05-00223-82	C CAPACITOR	0.022MF +80%-20%	
	C126	OW05-00150-06	C CAPACITOR	15PF 5%	
	C127	OW05-09361-05	POLY FILM CAPACITOR	360PF 5%	
	C128	OW05-00080-06	C CAPACITOR	8PF 5%	
	C130	OW06-50105-02	E CAPACITOR	1MF 50V	
	C131	OW06-16477-00	E CAPACITOR	470MF 16V	
	C132	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C133	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C134	OW06-50225-00	E CAPACITOR	2.2MF 50V	
	C142	OW06-50335-02	E CAPACITOR	3.3MF 50V	
	C144	OW06-50105-02	E CAPACITOR	1MF 50V	
	C150	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C151	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C152	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C153	OW06-50475-02	E CAPACITOR	4.7MF 50V	
	C154	OW06-50475-02	E CAPACITOR	4.7MF 50V	
	C163	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C164	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C167	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C169	OW05-07101-10A	C CAPACITOR	100P 10%	
	C172	OW05-03020-03T	CHIP CAPACITOR	2PF N500 J020	
	C175	OW05-00103-00	C CAPACITOR	0.01MF 10% 50V	
	C176	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C177	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C178	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C179	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C180	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C181	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C182	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C201	OW05-03151-03T	C CAPACITOR	150PF N151J 500A	
	C202	OW05-03182-06T	C CAPACITOR	0.0018MF B500 K182	
	C203	OW06-50105-02	E CAPACITOR	1MF 50V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C204	OW06-16227-00	E CAPACITOR	220MF 16V	
	C205	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C206	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C207	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C208	OW06-16227-00	E CAPACITOR	220MF 16V	
	C209	OW05-03272-06T	C CAPACITOR	0.0027MF B500 K272	
	C210	OW05-03331-03T	CHIP CAPACITOR	330PF N500 J331	
	C211	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C212	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C213	OW05-03563-06T	C CAPACITOR	0.056MF	
	C214	OW05-03473-06T	C CAPACITOR	0.047MF B500 K473	
	C215	OW06-50224-02	E CAPACITOR	0.22MF 50V	
	C216	OW06-16476-00	E CAPACITOR	47MF 16V	
	C217	OW05-03561-03T	CHIP CAPACITOR	560PF N500 J560	
	C220	OW05-03151-03T	C CAPACITOR	150PF N151J 500A	
	C221	OW05-03151-03T	C CAPACITOR	150PF N151J 500A	
	C222	OW05-03151-03T	C CAPACITOR	150PF N151J 500A	
	C223	OW05-03182-06T	C CAPACITOR	0.0018MF B500 K182	
	C224	OW06-50105-02	E CAPACITOR	1MF 50V	
	C225	OW06-16227-02	E CAPACITOR	220MF 16V	
	C226	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C227	OW06-16227-00	E CAPACITOR	220MF 16V	
	C228	OW05-03331-03T	CHIP CAPACITOR	330PF N500 J331	
	C229	OW06-50475-02	E CAPACITOR	4.7MF 50V	
	C230	OW05-03272-06T	C CAPACITOR	0.0027MF B500 K 272	
	C231	OW05-03473-06T	C CAPACITOR	0.047MF B500 K473	
	C232	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C233	OW05-03563-06T	C CAPACITOR	0.056MF	
	C234	OW06-16106-00	E CAPACITOR	10MF 16V	
	C235	OW06-16227-00	E CAPACITOR	220MF 16V	
	C236	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C237	OW06-50224-00	E CAPACITOR	0.22MF 50V	
	C238	OW06-16106-00	E CAPACITOR	10MF 16V	
	C239	OW05-03561-03T	CHIP CAPACITOR	560PF N500 J560	
	C240	OW05-02183-10	M CAPACITOR	0.018MF 10%	
	C241	OW05-02102-10	M CAPACITOR	0.001MF 10%	
	C242	OW05-02102-10	M CAPACITOR	0.001MF 10%	
	C243	OW06-16107-00	E CAPACITOR	100MF 16V	
	C245	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C250	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C251	OW05-02102-10	M CAPACITOR	0.001MF 10%	
	C252	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C253	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C254	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C255	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C256	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C258	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C259	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C261	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C262	OW05-00103-00	C CAPACITOR	0.01MF 10% 50V	
	C263	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C264	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C302	OW06-16227-00	E CAPACITOR	220MF 16V	
	C303	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C304	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C305	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C306	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C307	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C308	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C309	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C310	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C311	OW06-50225-00	E CAPACITOR	2.2MF 50V	
	C312	OW06-50225-00	E CAPACITOR	2.2MF 50V	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	C313	OW05-03470-03T	C CAPACITOR	47PF N500 J470	
	C314	OW05-03470-03T	C CAPACITOR	47PF N500 J470	
	C315	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C316	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C317	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C318	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C319	OW06-50105-90	E CAPACITOR	1MF 50V 10%	
	C320	OW06-50105-90	E CAPACITOR	1MF 50V 10%	
	C321	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C322	OW06-50475-00	E CAPACITOR	4.7MF 50V	
	C323	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C324	OW05-03103-06T	C CAPACITOR	0.01MF B500 K103	
	C325	OW06-16227-00	E CAPACITOR	220MF 16V	
	C326	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C327	OW06-16337-00	E CAPACITOR	330MF 16V	
	C328	OW06-16227-00	E CAPACITOR	220MF 16V	
	C329	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C330	OW06-16476-00	E CAPACITOR	47MF 16V	
	C331	OW06-16107-00	E CAPACITOR	100MF 16V	
	C332	OW06-25107-00	E CAPACITOR	100MF 25V	
	C333	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
⚠	C334	OW06-25228-00	E CAPACITOR	2200MF 25V	
	C335	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C336	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C4	OW05-00473-82	C CAPACITOR	0.047MF	
	C401	OW06-16227-00	E CAPACITOR	220MF 16V	
	C402	OW06-16106-02	E CAPACITOR	10MF 16V	
	C403	OW06-16226-00	E CAPACITOR	22MF 16V	
	C404	OW06-16106-02	E CAPACITOR	10MF 16V	
	C405	OW06-16106-02	E CAPACITOR	10MF 16V	
	C406	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C407	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C408	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C409	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C410	OW06-50105-00	E CAPACITOR	1MF 50V	
	C411	OW06-50105-00	E CAPACITOR	1MF 50V	
	C412	OW05-07101-10A	C CAPACITOR	100PF 10%	
	C413	OW05-07101-10A	C CAPACITOR	100PF 10%	
	C414	OW06-16106-00	E CAPACITOR	10MF 16V	
	C415	OW06-16106-00	E CAPACITOR	10MF 16V	
	C416	OW05-02104-10	M CAPACITOR	0.1MF 10%	
	C417	OW05-02104-10	M CAPACITOR	0.1MF 10%	
⚠	C418	OW06-35228-00	E CAPACITOR	2200MF 35V	
⚠	C419	OW06-35228-00	E CAPACITOR	2200MF 35V	
	C420	OW06-16227-00	E CAPACITOR	220MF 16V	
	C421	OW06-25227-00	E CAPACITOR	220MF 25V 20%	
	C422	OW06-50225-00	E CAPACITOR	2.2MF 50V	
	C423	OW06-50225-00	E CAPACITOR	2.2MF 50V	
	C424	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C425	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C426	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C427	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C432	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C433	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C434	OW06-25227-00	E CAPACITOR	220MF 25V 20%	
	C435	OW06-35477-00	E CAPACITOR	470MF 35V	
	C436	OW06-35477-00	E CAPACITOR	470MF 35V	
	C441	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C442	OW05-07101-10A	C CAPACITOR	100PF 10%	
	C450	OW05-07223-82A	C CAPACITOR	0.022MF	
	C451	OW05-00104-82	C CAPACITOR	0.1MF +80%-20%	
	C452	OW06-50225-00	E CAPACITOR	2.2MF 50V	
	C453	OW06-50225-02	E CAPACITOR	2.2MF 50V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C454	OW06-25476-00	E CAPACITOR	47MF 25V	
	C455	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C457	OW06-50225-00	E CAPACITOR	2.2MF 50V	
	C458	OW06-25476-00	E CAPACITOR	47MF 25V	
	C459	OW05-00104-82	C CAPACITOR	0.1MF +80%-20%	
	C463	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
	C464	OW05-03102-06T	C CAPACITOR	1000PF B500 K102	
⚠	C470	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C471	OW05-03223-06T	C CAPACITOR	0.022MF B500 K223	
	C472	OW05-03271-03T	C CAPACITOR	270PF N271J 500A	
	C473	OW05-03271-03T	C CAPACITOR	270PF N271J 500A	
	C479	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C480	OW05-03101-06T	C CAPACITOR	100PF N101J 500A	
	C481	OW05-00104-82	C CAPACITOR	0.1MF +80%-20%	
	C482	OW05-00104-82	C CAPACITOR	0.1MF +80%-20%	
	C483	OW05-00104-82	C CAPACITOR	0.1MF +80%-20%	
	C484	OW05-00104-82	C CAPACITOR	0.1MF +80%-20%	
	C485	OW05-00102-20	C CAPACITOR	0.001MF 20%	
	C487	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C488	OW05-03104-03T	CHIP CAPACITOR	0.1MF 10%	
	C494	OW06-25227-00	E CAPACITOR	220MF 25V 20%	
	C495	OW06-25227-00	E CAPACITOR	220MF 25V 20%	
	D101	OW02-04148-00R	DIODE	IN4148	
	D102	OW02-04148-00R	DIODE	IN4148	
	D103	OW02-04148-00R	DIODE	IN4148	
	D104	OW02-04148-00R	DIODE	IN4148	
	D105	OW02-00348-00	TUNING DIODE	SVC348-S	
	D201	OW02-04148-00R	DIODE	IN4148	
	D202	OW02-04148-00R	DIODE	IN4148	
	D301	OW02-04148-00R	DIODE	IN4148	
	D302	OW02-04148-00R	DIODE	IN4148	
	D303	OW02-04148-00R	DIODE	IN4148	
	D401	OW02-04148-00R	DIODE	IN4148	
	D402	OW02-04148-00R	DIODE	IN4148	
	D403	OW02-04148-00R	DIODE	IN4148	
	D404	OW02-04148-00R	DIODE	IN4148	
	D405	OW02-04148-00R	DIODE	IN4148	
	D406	OW02-04148-00R	DIODE	IN4148	
	D407	OW02-04148-00R	DIODE	IN4148	
	D408	OW02-04148-00R	DIODE	IN4148	
	FP101	OW00-00505-00	TUNER	PAD ENV17105G1	
	IC101	OW03-02099-00	IC	TA2099	
	IC102	OW03-09257-01	IC	TC9257F	
	IC201	OW03-01330-00	IC	UPC1330HA	
	IC202	OW03-07312-00	IC	AN7312	
	IC301	OW03-09422-00	IC	TC9422F	
⚠	IC302	OW03-07812-00	IC	NJM7812A	
	IC401	OW03-04558-03	IC	BA4558N	
	IC402	OW03-01876-00	IC	LM1876TF	
	IC403	OW03-04558-03	IC	BA4558N	
	J456	OW07-25000-60K	CARBON RESISTOR	0 1/16 000J	
	L101	OW09-70101-00	INDUCTOR	10MH	
	L102	OW08-01014-02	IFT RED	1A1014N	
	L103	OW08-86436-70	AM ANT COIL	OA10-864367	
	L104	OW08-73995-00	FM DET	114KHZ FILTER	
	L105	OW09-70101-00	INDUCTOR	10MH	
	L201	OW09-40474-00W	CHOKE COIL	47MH	
	L202	OW09-40474-00W	CHOKE COIL	47MH	
	L203	OW08-07163-00	OSC COIL	7L1A63N BIAS	
	L301	OW09-70222-03T	INDUCTOR	220UH CESS-221K	
	L401	OW09-40080-00W	CHOKE COIL	8MH WLF-800081	
	L402	OW09-40080-00W	CHOKE COIL	8MH WLF-800081	
	L403	OW09-40080-00W	CHOKE COIL	8MH WLF-800081	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	L404	OW09-40080-00W	CHOKE COIL	8MH WLF-800081	
	L405	OW09-70222-00	INDUCTOR	220UH	
	L406	OW09-70222-00	INDUCTOR	220UH	
	L407	OW09-70222-00	INDUCTOR	220UH	
	L408	OW09-70470-01	INDUCTOR	4.7UH CESS-4R7K	
	Q101	OW01-09018-07	TRANSISTOR	9018G	
	O102	OW01-00733-16	TRANSISTOR	2SA733P	
	O103	OW01-00733-16	TRANSISTOR	2SA733P	
	O104	OW01-00945-16	TRANSISTOR	2SC945P	
	O105	OW01-00945-16	TRANSISTOR	2SC945P	
	Q106	OW01-00945-16	TRANSISTOR	2SC945P	
	O107	OW01-00945-16	TRANSISTOR	2SC945P	
	O109	OW01-00945-16	TRANSISTOR	2SC945P	
	O110	OW01-00945-16	TRANSISTOR	2SC945P	
	Q111	OW01-00945-16	TRANSISTOR	2SC945P	
	O112	OW01-00945-16	TRANSISTOR	2SC945P	
	O113	OW01-00733-16	TRANSISTOR	2SA733P	
	O114	OW01-00945-16	TRANSISTOR	2SC945P	
	O201	OW01-08050-04S	TRANSISTOR	8050D	
	Q202	OW01-00945-16	TRANSISTOR	2SC945P	
	O203	OW01-00945-16	TRANSISTOR	2SC945P	
	Q204	OW01-00945-16	TRANSISTOR	2SC945P	
	O205	OW01-00945-16	TRANSISTOR	2SC945P	
	O206	OW01-08050-04S	TRANSISTOR	8050D	
	Q207	OW01-00945-16	TRANSISTOR	2SC945P	
	O208	OW01-00945-16	TRANSISTOR	2SC945P	
	O209	OW01-00945-16	TRANSISTOR	2SC945P	
	O210	OW01-00945-16	TRANSISTOR	2SC945P	
	O211	OW01-00733-16	TRANSISTOR	2SA733P	
	O212	OW01-00945-16	TRANSISTOR	2SC945P	
	O213	OW01-00945-16	TRANSISTOR	2SC945P	
	O214	OW01-00945-16	TRANSISTOR	2SC945P	
	O215	OW01-00945-16	TRANSISTOR	2SC945P	
	O301	OW01-00945-16	TRANSISTOR	2SC945P	
	O302	OW01-00945-16	TRANSISTOR	2SC945P	
	O303	OW01-01383-18	TRANSISTOR	2SC1383R	
	O304	OW01-00945-16	TRANSISTOR	2SC945P	
	O305	OW01-01240-00	TRANSISTOR	2SB1240O	
	O401	OW01-08050-04S	TRANSISTOR	8050D	
	O402	OW01-08050-04S	TRANSISTOR	8050D	
	O403	OW01-08050-04S	TRANSISTOR	8050D	
	O404	OW01-08050-04S	TRANSISTOR	8050D	
	O405	OW01-00733-16	TRANSISTOR	2SA733P	
	O406	OW01-00945-16	TRANSISTOR	2SC945P	
	Q407	OW01-00945-16	TRANSISTOR	2SC945P	
	O410	OW01-08050-04S	TRANSISTOR	8050D	
	O411	OW01-08550-04S	TRANSISTOR	8550D	
	R101	OW07-25331-60K	CARBON RESISTOR	330 1/8W	
	R102	OW07-25474-60K	CARBON RESISTOR	470K 1/16 474J	
	R103	OW07-25471-60K	CARBON RESISTOR	470 1/16 471J	
	R104	OW07-25331-60K	CARBON RESISTOR	330 1/8W	
	R105	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R106	OW07-15100-50T	CARBON RESISTOR	10 1/8W 5%	
	R107	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R108	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R109	OW07-25274-60K	CARBON RESISTOR	270K 1/16 274J	
	R110	OW07-25183-60K	CARBON RESISTOR	18K 1/16 183J	
	R111	OW07-25273-60K	CARBON RESISTOR	27K 1/16 273J	
	R112	OW07-25222-60K	CARBON RESISTOR	2.2K 1/16 222J	
	R113	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R114	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R115	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R116	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	

⚠	Item	Parts number	Parts name	Remarks	Area
	R117	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R118	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R119	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R120	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R121	OW07-15104-50T	CARBON RESISTOR	100K 1/8W 5%	
	R122	OW07-15104-50T	CARBON RESISTOR	100K 1/8W 5%	
	R123	OW07-25101-60K	CARBON RESISTOR	100 1/16 101J	
	R124	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R125	OW07-25122-60K	CARBON RESISTOR	1.2K 1/16 122J	
	R126	OW07-25222-60K	CARBON RESISTOR	2.2K 1/16 222J	
	R127	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R128	OW07-25332-60K	CARBON RESISTOR	3.3K 1/16 332J	
	R129	OW07-25563-60K	CARBON RESISTOR	56K 1/16 563J	
	R133	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R134	OW07-15221-50T	CARBON RESISTOR	220 1/8W 5%	
	R135	OW07-15221-50T	CARBON RESISTOR	220 1/8W 5%	
	R136	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R137	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R138	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R139	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R140	OW07-25152-60K	CARBON RESISTOR	1.5K 1/16 152J	
	R141	OW07-25152-60K	CARBON RESISTOR	1.5K 1/16 152J	
	R142	OW07-15561-50T	CARBON RESISTOR	560 1/8W 5%	
	R143	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R144	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R145	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R146	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R147	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R148	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R149	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R150	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R151	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R152	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R153	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R154	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R155	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R156	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R161	OW07-25562-60K	CARBON RESISTOR	5.6K 1/16 562J	
	R162	OW07-25562-60K	CARBON RESISTOR	5.6K 1/16 562J	
	R163	OW07-25183-60K	CARBON RESISTOR	18K 1/16 183J	
	R164	OW07-25183-60K	CARBON RESISTOR	18K 1/16 183J	
	R165	OW07-25682-60K	CARBON RESISTOR	6.8K 1/16 682J	
	R166	OW07-25682-60K	CARBON RESISTOR	6.8K 1/16 682J	
	R167	OW07-15100-50T	CARBON RESISTOR	10 1/8W 5%	
	R168	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R169	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R201	OW07-25183-60K	CARBON RESISTOR	18K 1/16 183J	
	R202	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R203	OW07-25333-60K	CARBON RESISTOR	33K 1/16 333J	
	R204	OW07-25180-60K	CARBON RESISTOR	18 1/16 180J	
	R205	OW07-25333-60K	CARBON RESISTOR	33K 1/16 333J	
	R206	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R207	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R208	OW07-25153-60K	CARBON RESISTOR	15K 1/16 153J	
	R209	OW07-25684-60K	CARBON RESISTOR	680K 1/16 684J	
	R210	OW07-25153-60K	CARBON RESISTOR	15K 1/16 153J	
	R211	OW07-25333-60K	CARBON RESISTOR	33K 1/16 333J	
	R212	OW07-25823-60K	CARBON RESISTOR	82K 1/16 823J	
	R213	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R214	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R215	OW07-25391-60K	CARBON RESISTOR	390 1/16 391J	
	R216	OW07-25683-60K	CARBON RESISTOR	68K 1/16 683J	
	R217	OW07-15010-50T	CARBON RESISTOR	1 1/8W 5%	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	R218	OW07-25273-60K	CARBON RESISTOR	27K 1/16 273J	
	R219	OW07-25273-60K	CARBON RESISTOR	27K 1/16 273J	
	R220	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R221	OW07-25221-60K	CARBON RESISTOR	220 1/16 221J	
	R222	OW07-25183-60K	CARBON RESISTOR	18K 1/16 183J	
	R223	OW07-25333-60K	CARBON RESISTOR	33K 1/16 333J	
	R224	OW07-25331-60K	CARBON RESISTOR	330 1/8W	
	R225	OW07-15101-26T	CARBON RESISTOR	100 1/4W 5%	
	R226	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R227	OW07-25180-60K	CARBON RESISTOR	18 1/16 180J	
	R228	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R229	OW07-15153-50T	CARBON RESISTOR	15K 1/8W 5%	
	R231	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R232	OW07-25333-60K	CARBON RESISTOR	33K 1/16 333J	
	R233	OW07-15221-26T	CARBON RESISTOR	220 1/4W	
	R234	OW07-25153-60K	CARBON RESISTOR	15K 1/16 153J	
	R235	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R236	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R237	OW07-25823-60K	CARBON RESISTOR	82K 1/16 823J	
	R238	OW07-25391-60K	CARBON RESISTOR	390 1/16 391J	
	R239	OW07-25683-60K	CARBON RESISTOR	68K 1/16 683J	
	R240	OW07-25047-60K	CARBON RESISTOR	4.7 1/16 4R7J	
	R241	OW07-25273-60K	CARBON RESISTOR	27K 1/16 273J	
	R242	OW07-25100-60K	CARBON RESISTOR	10 1/16 100J	
	R243	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R244	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R245	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R246	OW07-25333-60K	CARBON RESISTOR	33K 1/16 333J	
	R247	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R248	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R249	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R250	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R251	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R252	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R255	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R256	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R257	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R258	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R259	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R301	OW07-15680-50T	CARBON RESISTOR	68 1/8W 5%	
	R302	OW07-25471-60K	CARBON RESISTOR	470 1/16 471J	
	R303	OW07-25394-60K	CARBON RESISTOR	390K 1/16 394J	
	R304	OW07-25681-60K	CARBON RESISTOR	680 1/16 681J	
	R307	OW07-25471-60K	CARBON RESISTOR	470 1/16 471J	
	R308	OW07-25394-60K	CARBON RESISTOR	390K 1/16 394J	
	R309	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R310	OW07-25681-60K	CARBON RESISTOR	680 1/16 681J	
	R312	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R313	OW07-25471-60K	CARBON RESISTOR	470 1/16 471J	
	R314	OW07-15100-26T	CARBON RESISTOR	10 1/4W 5%	
	R315	OW07-15561-50T	CARBON RESISTOR	560 1/8W 5%	
	R316	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R317	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R318	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R319	OW07-25102-60K	CARBON RESISTOR	1K 1/16 102J	
	R351	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R352	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R353	OW07-25822-60K	CARBON RESISTOR	8.2K 1/16 822J	
	R354	OW07-25822-60K	CARBON RESISTOR	8.2K 1/16 822J	
	R355	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R356	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R401	OW07-15682-26T	CARBON RESISTOR	6.8K 1/4W 5%	
	R402	OW07-25153-60K	CARBON RESISTOR	15K 1/16 153J	

⚠	Item	Parts number	Parts name	Remarks	Area
	R403	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R404	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R405	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R406	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R407	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R408	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R409	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R410	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R411	OW07-25472-60K	CARBON RESISTOR	4.7K 1/16 472J	
	R412	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R413	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R414	OW07-25563-60K	CARBON RESISTOR	56K 1/16 563J	
	R415	OW07-25563-60K	CARBON RESISTOR	56K 1/16 563J	
	R416	OW07-15102-26T	CARBON RESISTOR	1K 1/4W 5%	
	R417	OW07-15102-26T	CARBON RESISTOR	1K 1/4W 5%	
	R418	OW07-15563-50T	CARBON RESISTOR	56K 1/8W 5%	
	R419	OW07-15563-50T	CARBON RESISTOR	56K 1/8W 5%	
	R420	OW07-15223-00	CARBON RESISTOR	22K 1/4W 5%	
	R421	OW07-15223-00	CARBON RESISTOR	22K 1/4W 5%	
	R422	OW07-15102-26T	CARBON RESISTOR	1K 1/4W 5%	
	R423	OW07-15102-26T	CARBON RESISTOR	1K 1/4W 5%	
	R424	OW07-05047-10	CARBON RESISTOR	4.7 1/2W	
	R425	OW07-05047-10	CARBON RESISTOR	4.7 1/2W	
	R426	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R428	OW07-15682-26T	CARBON RESISTOR	6.8K 1/4W 5%	
	R429	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R430	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R431	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R432	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R433	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R434	OW07-25682-60K	CARBON RESISTOR	6.8K 1/16 682J	
	R435	OW07-25682-60K	CARBON RESISTOR	6.8K 1/16 682J	
	R436	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R437	OW07-25473-60K	CARBON RESISTOR	47K 1/16 473J	
	R438	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R439	OW07-25223-60K	CARBON RESISTOR	22K 1/16 223J	
	R440	OW07-25152-60K	CARBON RESISTOR	1.5K 1/16 152J	
	R441	OW07-25152-60K	CARBON RESISTOR	1.5K 1/16 152J	
	R442	OW07-25221-60K	CARBON RESISTOR	220 1/16 221J	
	R443	OW07-25221-60K	CARBON RESISTOR	220 1/16 221J	
	R445	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R446	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R447	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R448	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R449	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R450	OW07-15104-50T	CARBON RESISTOR	100K 1/8W 5%	
	R451	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R452	OW07-05022-10	CARBON RESISTOR	2.2 1/2W	
	R453	OW07-05022-10	CARBON RESISTOR	2.2 1/2W	
	R458	OW07-15181-50T	CARBON RESISTOR	180 1/8W 5%	
	R459	OW07-25122-60K	CARBON RESISTOR	1.2K 1/16 122J	
	R463	OW07-15181-50T	CARBON RESISTOR	180 1/8W 5%	
	R464	OW07-25122-60K	CARBON RESISTOR	1.2K 1/16 122J	
	R482	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R483	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R484	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R485	OW07-25104-60K	CARBON RESISTOR	100K 1/16 104J	
	R486	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R487	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R488	OW07-25103-60K	CARBON RESISTOR	10K 1/16 103J	
	R489	OW07-25022-60K	CARBON RESISTOR	2R2 1/16 2R20J	
	R490	OW07-25022-60K	CARBON RESISTOR	2R2 1/16 2R20J	
	TC101	OW05-08100-03	TRIM CAPACITOR	10PF 3PIN	

■ **Electrical parts list (Main board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	T101	OW08-00332-24C	IFT YEL	10MM 810017	
	X101	OW04-07200-05	CRYSTAL	7.2MHZ HC-49U 30PPM	
	Z101	OW02-50100-00	ZENER DIODE	10V 0.5W	
	Z301	OW02-50091-00	ZENER DIODE	9.1V 0.5W	
	Z401	OW02-50180-00	ZENER DIODE	18V 0.5W	
⚠	Z402	OW02-50180-00	ZENER DIODE	18V 0.5W	

■ **Electrical parts list (CD&MCU board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN601	OW20-21100-00	CONNECTOR	P=2 10PIN	
	CN602	OW20-21080-00	CONNECTOR	P=2 8PIN	
	CN603	OW20-21030-00	CONNECTOR	P=2 3PIN	
	CN604	OW20-41092-43	CONNECTOR HOUG	P=2 L=220 9PIN	
	CN607	OW20-11060-00	CONNECTOR	P=2 6PIN	
	CN608	OW20-21030-00	CONNECTOR	P=2 3PIN	
	CN609	OW20-42032-13	CONNECTOR HOUG	P=2.5 3PIN	
	CN701	OW20-12020-00	CONNECTOR	P=2.5 2PIN	
	CN702	OW20-21020-00	CONNECTOR	P=2 2PIN	
	CN703	OW20-21060-00	CONNECTOR	P=2 6PIN	
	CN704	OW20-80160-00I	FFC SOCKET	P=1 16PIN	
	C601	OW06-10477-00	E CAPACITOR	470MF 10V	
	C602	OW06-10108-00	E CAPACITOR	1000MF 10V	
	C602A	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C603	OW06-10227-00S	E CAPACITOR	220MF 10V	
	C605	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C606	OW05-07250-06T	C CAPACITOR	25PF	
	C607	OW05-07250-06T	C CAPACITOR	25PF	
	C608	OW05-07250-06T	C CAPACITOR	25PF	
	C609	OW05-07250-06T	C CAPACITOR	25PF	
	C610	OW06-10107-00S	E CAPACITOR	100MF 10V	
	C611	OW06-10107-00S	E CAPACITOR	100MF 10V	
	C612	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C613	OW06-10107-00S	E CAPACITOR	100MF 10V	
	C614	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C615	OW06-50225-02	E CAPACITOR	2.2MF 50V	
	C616	OW05-07271-10T	C CAPACITOR	270PF 10%	
	C617	OW05-07561-05	C CAPACITOR	560PF 5%	
	C618	OW06-10107-00S	E CAPACITOR	100MF 10V	
	C619	OW05-07330-06T	C CAPACITOR	33PF	
	C620	OW05-07330-06T	C CAPACITOR	33PF	
	C621	OW06-10107-00S	E CAPACITOR	100MF 10V	
	C622	OW06-10106-02	E CAPACITOR	10MF 10V	
	C630	OW05-07102-10A	C CAPACITOR	1000PF 10%	
	C641	OW06-10107-02	E CAPACITOR	100MF 10V	
	C642	OW06-10476-02	E CAPACITOR	47MF 10V	
	C643	OW06-16226-02	E CAPACITOR	22MF 16V	
	C646	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C648	OW05-07223-82A	C CAPACITOR	0.022MF	
	C701	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C702	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C703	OW05-07223-82A	C CAPACITOR	0.022MF	
	C704	OW06-10227-00S	E CAPACITOR	220MF 10V	
	C705	OW06-10477-00	E CAPACITOR	470MF 10V	
	C706	OW06-10106-00	E CAPACITOR	10MF 10V	
	C707	OW06-10106-00	E CAPACITOR	10MF 10V	
	C708	OW05-07222-82A	C CAPACITOR	2200PF	
	C709	OW06-10476-02	E CAPACITOR	47MF 10V	
	C710	OW06-10226-02	E CAPACITOR	22MF 10V	
	C711	OW05-07222-82A	C CAPACITOR	2200PF	
	C712	OW05-07473-82B	C CAPACITOR	0.047MF	
	C713	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C714	OW06-10105-02	E CAPACITOR	1MF 10V	
	C715	OW05-03103-10T	C CAPACITOR	B103K 500A	
	C716	OW05-07473-82B	C CAPACITOR	0.047MF	
	C717	OW05-07150-06T	C CAPACITOR	15PF	
	C718	OW05-07150-06T	C CAPACITOR	15PF	
	C719	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C720	OW05-07473-82B	C CAPACITOR	0.047MF	
	C721	OW05-07473-82B	C CAPACITOR	0.047MF	
	C722	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C723	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C724	OW06-16337-00	E CAPACITOR	330MF 16V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C725	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C726	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C727	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C728	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C729	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C730	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C731	OW05-07473-82B	C CAPACITOR	0.047MF	
	C732	OW05-07473-82B	C CAPACITOR	0.047MF	
	C733	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C736	OW05-07153-00	C CAPACITOR	0.015MF	
	C737	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C738	OW05-07470-00A	C CAPACITOR	47PF 5%	
	C739	OW05-07272-00	C CAPACITOR	0.0027MF 50V 10%	
	C740	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C741	OW05-02472-10	M CAPACITOR	0.0047MF 10%	
	C742	OW05-07471-10A	C CAPACITOR	470PF 10%	
	C743	OW05-07471-10A	C CAPACITOR	470PF 10%	
	C744	OW05-07473-82B	C CAPACITOR	0.047MF	
	C746	OW05-02472-10	M CAPACITOR	0.0047MF 10%	
	C747	OW06-10476-02	E CAPACITOR	47MF 10V	
	C748	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C749	OW05-07473-82B	C CAPACITOR	0.047MF	
	C753	OW06-10227-02	E CAPACITOR	220MF 10V	
	C754	OW06-10227-02	E CAPACITOR	220MF 10V	
	C761	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C762	OW06-10106-02	E CAPACITOR	10MF 10V	
	C763	OW06-50225-02	E CAPACITOR	2.2MF 50V	
	C765	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C766	OW05-07103-20A	C CAPACITOR	0.01MF 20%	
	C771	OW05-00560-06	C CAPACITOR	56PF 5%	
	C772	OW05-07224-00	C CAPACITOR	0.22MF	
	C773	OW05-07224-00	C CAPACITOR	0.22MF	
	C774	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C775	OW05-07082-10A	C CAPACITOR	8.2PF 10%	
	C776	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C777	OW06-10476-02	E CAPACITOR	47MF 10V	
	C778	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	C779	OW06-10107-02	E CAPACITOR	100MF 10V	
	C780	OW06-10476-02	E CAPACITOR	47MF 10V	
	C781	OW05-07473-82B	C CAPACITOR	0.047MF	
	C790	OW06-16228-00	E CAPACITOR	2200MF 16V	
	C791	OW05-07104-82B	C CAPACITOR	0.1MF 50V	
	D601	OW02-04148-00R	DIODE	IN4148	
	D602	OW02-04148-00R	DIODE	IN4148	
	D603	OW02-04148-00R	DIODE	IN4148	
	D604	OW02-04148-00R	DIODE	IN4148	
	D605	OW02-50091-00	ZENER DIODE	9.1V 0.5W	
	D606	OW02-50062-00	ZENER DIODE	6.2V 0.5W	
	D608	OW02-04148-00R	DIODE	IN4148	
	D609	OW02-50062-00	ZENER DIODE	6.2V 0.5W	
	D610	OW02-04001-00	DIODE	IN4001	
	D611	OW02-04148-00R	DIODE	IN4148	
	D702	OW02-50056-00	ZENER DIODE	5.6V 0.5W	
	D703	OW02-50062-00	ZENER DIODE	6.2V 0.5W	
	D704	OW02-04148-00R	DIODE	IN4148	
	D705	OW02-04148-00R	DIODE	IN4148	
	IC601	OW03-87261-15	IC	TMP87EP26F-1J15	
	IC602	OW03-01924-00	IC	BU1924F	
	IC701	OW03-09462-00	IC	TC9462F	
	IC702	OW03-07291-00	IC	TA7291S	
	IC703	OW03-02092-00	IC	TA2092N	
	IC704	OW03-02153-00	IC	TA2153FN	
	L601	OW09-70102-00C	INDUCTOR	100MH	

■ **Electrical parts list (CD&MCU board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	L602	OW09-70102-00C	INDUCTOR	100MH	
	L603	OW09-70102-00C	INDUCTOR	100MH	
	L604	OW08-01122-00	FERRITE BEAD	RH03509ST-B246	
	L605	OW09-70102-00C	INDUCTOR	100MH	
	L606	OW09-70102-00C	INDUCTOR	100MH	
	L607	OW08-01122-00	FERRITE BEAD	RH03509ST-B246	
	L608	OW08-01122-00	FERRITE BEAD	RH03509ST-B246	
	L701	OW08-01122-00	FERRITE BEAD	RH03509ST-B246	
	L702	OW08-01122-00	FERRITE BEAD	RH03509ST-B246	
	L703	OW09-70101-00	INDUCTOR	10MH	
	L704	OW09-70101-00	INDUCTOR	10MH	
	L705	OW09-70102-00C	INDUCTOR	100MH	
	O601	OW01-00945-16	TRANSISTOR	2SC945P	
	O603	OW01-00882-00	TRANSISTOR	2SD882O	
	Q604	OW01-01240-00	TRANSISTOR	2SB1240Q	
	O605	OW01-00945-16	TRANSISTOR	2SC945P	
	O606	OW01-08050-04S	TRANSISTOR	8050D	
	O607	OW01-01383-18	TRANSISTOR	2SC1383R	
	O610	OW01-08050-04S	TRANSISTOR	8050D	
	Q701	OW01-00945-16	TRANSISTOR	2SC945P	
	O702	OW01-00945-16	TRANSISTOR	2SC945P	
	Q703	OW01-00733-16	TRANSISTOR	2SA733P	
	O704	OW01-01383-18	TRANSISTOR	2SC1383R	
	O705	OW01-00733-16	TRANSISTOR	2SA733P	
	Q707	OW01-00733-16	TRANSISTOR	2SA733P	
	O708	OW01-00945-16	TRANSISTOR	2SC945P	
	O709	OW01-00945-16	TRANSISTOR	2SC945P	
	O791	OW01-01240-00	TRANSISTOR	2SB1240O	
	O792	OW01-00945-16	TRANSISTOR	2SC945P	
	R602	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R603	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R604	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R605	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R606	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R607	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R608	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R609	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R610	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R612	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R616	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R617	OW07-15153-50T	CARBON RESISTOR	15K 1/8W 5%	
	R618	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R620	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R622	OW07-05022-10	CARBON RESISTOR	2.2 1/2W	
	R623	OW07-15223-50T	CARBON RESISTOR	22K 1/8W 5%	
	R624	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R625	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R626	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R627	OW07-15122-50T	CARBON RESISTOR	1.2K 1/8W 5%	
	R628	OW07-15100-50T	CARBON RESISTOR	10 1/8W 5%	
	R630	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R631	OW07-15222-50T	CARBON RESISTOR	2.2K 1/8W 5%	
	R632	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R633	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R634	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R635	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R636	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R637	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R641	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R643	OW07-15682-50T	CARBON RESISTOR	6.8K 1/8W 5%	
	R644	OW07-15682-50T	CARBON RESISTOR	6.8K 1/8W 5%	
	R645	OW07-15222-50T	CARBON RESISTOR	2.2K 1/8W 5%	
	R646	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	

⚠	Item	Parts number	Parts name	Remarks	Area
	R647	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R648	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R649	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R650	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R651	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R652	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R653	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R701	OW07-15104-50T	CARBON RESISTOR	100K 1/8W 5%	
	R702	OW07-15104-50T	CARBON RESISTOR	100K 1/8W 5%	
	R703	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R704	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R705	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R706	OW07-15271-50T	CARBON RESISTOR	270 1/8W 5%	
	R707	OW07-15271-50T	CARBON RESISTOR	270 1/8W 5%	
	R708	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R709	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R710	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R711	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R712	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R713	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R714	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R715	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R716	OW07-15561-50T	CARBON RESISTOR	560 1/8W 5%	
	R717	OW07-15100-50T	CARBON RESISTOR	10 1/8W 5%	
	R718	OW07-25561-50K	CARBON RESISTOR	560 1/10 561J	
	R721	OW07-15332-50T	CARBON RESISTOR	3.3K 1/8W 5%	
	R722	OW07-15332-50T	CARBON RESISTOR	3.3K 1/8W 5%	
	R723	OW07-15332-50T	CARBON RESISTOR	3.3K 1/8W 5%	
	R724	OW07-15332-50T	CARBON RESISTOR	3.3K 1/8W 5%	
	R725	OW07-15332-50T	CARBON RESISTOR	3.3K 1/8W 5%	
	R726	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R727	OW07-15332-50T	CARBON RESISTOR	3.3K 1/8W 5%	
	R729	OW07-15224-50T	CARBON RESISTOR	220K 1/8W 5%	
	R730	OW07-15683-50T	CARBON RESISTOR	68K 1/8W 5%	
	R731	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R732	OW07-15153-50T	CARBON RESISTOR	15K 1/8W 5%	
	R733	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R735	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R736	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R737	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R738	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R739	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R742	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R743	OW07-15333-50T	CARBON RESISTOR	33K 1/8W 5%	
	R744	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R745	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R746	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R747	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R748	OW07-15333-50T	CARBON RESISTOR	33K 1/8W 5%	
	R750	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R751	OW07-15561-00	CARBON RESISTOR	560 1/4W 5%	
	R752	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R753	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R754	OW07-05082-10	CARBON RESISTOR	8.2 1/2W	
	R755	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R757	OW07-15562-50T	CARBON RESISTOR	5.6K 1/8W 5%	
	R758	OW07-15104-50T	CARBON RESISTOR	100K 1/8W 5%	
	R759	OW07-15512-50T	CARBON RESISTOR	5.1K 1/8W 5%	
	R760	OW07-15222-50T	CARBON RESISTOR	2.2K 1/8W 5%	
	R761	OW07-15562-50T	CARBON RESISTOR	5.6K 1/8W 5%	
	R762	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R763	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R764	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	

■ **Electrical parts list (CD&MCU board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	R781	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R782	OW07-15273-50T	CARBON RESISTOR	27K 1/8W 5%	
	R783	OW07-15222-50T	CARBON RESISTOR	2.2K 1/8W 5%	
	R784	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R785	OW07-15221-50T	CARBON RESISTOR	220 1/8W 5%	
	R786	OW07-15683-50T	CARBON RESISTOR	68K 1/8W 5%	
	R789	OW07-15823-50T	CARBON RESISTOR	82K 1/8W 5%	
	R790	OW07-15100-50T	CARBON RESISTOR	10 1/8W 5%	
	R791	OW07-15223-50T	CARBON RESISTOR	22K 1/8W 5%	
	R792	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R793	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R794	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	X601	OW04-07200-00H	CRYSTAL	7.2MHZ HC-49S	
	X602	OW04-32768-03S	CRYSTAL	32.768KHZ	
	X603	OW04-04332-01N	CRYSTAL	4.332MHZ 49U-NEW	
	X701	OW04-16934-41M	CRYSTAL	16.9344MHZ	

■ **Electrical parts list (Power board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN403	OW20-21040-00	CONNECTOR	P=2 4PIN	
	CN705	OW20-41022-25	CONNECTOR HOUG	P=2 L=70 2PIN	
	CN901	OW20-12050-00	CONNECTOR	P=2.5 5PIN	
	CN902	OW20-12030-00	CONNECTOR	P=2.5 3PIN	
	CN903	OW20-42021-48	CONNECTOR HOUG	P=2.5 L=400 2PIN	
⚠	C901	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C902	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C903	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C904	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C905	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C906	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C907	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C908	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C909	OW05-06104-11	MLCC	0.1MF 100V 10%	
⚠	C910	OW05-06104-11	MLCC	0.1MF 100V 10%	
⚠	C911	OW05-06104-11	MLCC	0.1MF 100V 10%	
⚠	C912	OW05-06104-11	MLCC	0.1MF 100V 10%	
⚠	C913	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C914	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C915	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C916	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	C917	OW06-16477-00	E CAPACITOR	470MF 16V	
⚠	C918	OW06-25477-00	E CAPACITOR	470MF 25V	
⚠	C919	OW06-35477-00	E CAPACITOR	470MF 35V	
⚠	C920	OW06-35477-00	E CAPACITOR	470MF 35V	
⚠	C921	OW06-25477-00	E CAPACITOR	470MF 25V	
	C922	OW06-16336-00	E CAPACITOR	33MF 16V	
	C923	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
	C924	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
	C925	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
⚠	D901	OW02-04001-00	DIODE	IN4001	
⚠	D902	OW02-04001-00	DIODE	IN4001	
⚠	D903	OW02-04001-00	DIODE	IN4001	
⚠	D904	OW02-04001-00	DIODE	IN4001	
⚠	D905	OW02-04001-00	DIODE	IN4001	
⚠	D906	OW02-04001-00	DIODE	IN4001	
⚠	D907	OW02-04001-00	DIODE	IN4001	
⚠	D908	OW02-04001-00	DIODE	IN4001	
⚠	D909	OW02-05402-00	DIODE	IN5402-F	
⚠	D910	OW02-05402-00	DIODE	IN5402-F	
⚠	D911	OW02-05402-00	DIODE	IN5402-F	
⚠	D912	OW02-05402-00	DIODE	IN5402-F	
⚠	D913	OW02-04001-00	DIODE	IN4001	
⚠	D914	OW02-04001-00	DIODE	IN4001	
⚠	D915	OW02-04001-00	DIODE	IN4001	
⚠	D916	OW02-04001-00	DIODE	IN4001	
	D917	OW02-04001-00	DIODE	IN4001	
	D918	OW02-04148-00R	DIODE	IN4148	
⚠	F901	OW33-57162-02	FUSE	250V 1.6A	
⚠	F902	OW33-57252-02	FUSE	250V 2.5A	
⚠	F903	OW33-57252-02	FUSE	250V 2.5A	
⚠	F904	OW33-57162-02	FUSE	250V 1.6A	
	HF901	OW39-10001-00A	FUSE HOLDER		
	HF902	OW39-10001-00A	FUSE HOLDER		
	HF903	OW39-10001-00A	FUSE HOLDER		
	HF904	OW39-10001-00A	FUSE HOLDER		
	JK401	OW12-00035-42	PHONE JACK	MSJ-0350-10AB	
	L409	OW08-04344-40	FERRITE COIL	4T 3.5X3X1.3	
	L410	OW08-04344-40	FERRITE COIL	4T 3.5X3X1.3	
	L411	OW08-04344-40	FERRITE COIL	4T 3.5X3X1.3	
	L901	OW09-00400-00	COM MODE CHOKE	TR12.5X7.5X5	
	O901	OW01-00733-16	TRANSISTOR	2SA733P	
	O902	OW01-00945-16	TRANSISTOR	2SC945P	

⚠	Item	Parts number	Parts name	Remarks	Area
⚠	RL901	OW16-50105-00	RELAY SWITCH	OJ-SH-105LM	
	R901	OW07-15472-50T	CARBON RESISTOR	4.7K 1/8W 5%	
	R902	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R903	OW07-15473-50T	CARBON RESISTOR	47K 1/8W 5%	
	R904	OW07-15152-50T	CARBON RESISTOR	1.5K 1/8W 5%	
	R905	OW07-15680-26T	CARBON RESISTOR	68 1/4W	
⚠	TR901	OW15-80005-00	POWER TRANS.	EI-76 T05875A	
⚠	TR902	OW15-80003-01	POWER TRANS.	T28-012200500	

■ **Electrical parts list (Key board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN103	OW20-12020-01K	CONNECTOR	P=2.5 2PIN	
	CN104	OW20-22020-01	CONNECTOR	P=2.5 2PIN	
	CN801	OW20-41032-17	CONNECTOR HOUG	P=2 L=150 3PIN	
	CN802	OW20-41062-26	CONNECTOR HOUG	P=2 L=160 6PIN	
	C801	OW06-10476-00S	E CAPACITOR	47MF 10V	
	C802	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
	C803	OW05-00203-82	C CAPACITOR	0.02MF +80/-20%	
	D801	OW02-30004-07	LED	BLUE 31B4SCB04	
	D802	OW02-30004-07	LED	BLUE 31B4SCB04	
	D804	OW02-50000-10D	LED	L-59EGW	
	D805	OW02-50000-10D	LED	L-59EGW	
	D806	OW02-50000-10D	LED	L-59EGW	
	D807	OW02-04148-00R	DIODE	IN4148	
	D808	OW02-04148-00R	DIODE	IN4148	
	D809	OW02-04148-00R	DIODE	IN4148	
	D810	OW02-04148-00R	DIODE	IN4148	
	LED	OW25-23070-02K	CONNECTOR	UL2651 28 70MM	
	O801	OW01-00945-16	TRANSISTOR	2SC945P	
	O802	OW01-00733-16	TRANSISTOR	2SA733P	
	Q803	OW01-00945-16	TRANSISTOR	2SC945P	
	O804	OW01-00733-16	TRANSISTOR	2SA733P	
	Q805	OW01-00945-16	TRANSISTOR	2SC945P	
	O806	OW01-00733-16	TRANSISTOR	2SA733P	
	R801	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R802	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R803	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R804	OW07-15121-50T	CARBON RESISTOR	120 1/8W 5%	
	R805	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R806	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R807	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R808	OW07-15121-50T	CARBON RESISTOR	120 1/8W 5%	
	R809	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R810	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R811	OW07-15121-50T	CARBON RESISTOR	120 1/8W 5%	
	R812	OW07-15101-50T	CARBON RESISTOR	100 1/8W 5%	
	R813	OW07-15750-50T	CARBON RESISTOR	75 1/8W 5%	
	R814	OW07-15471-50T	CARBON RESISTOR	470 1/8W 5%	
	R815	OW07-15152-50T	CARBON RESISTOR	1.5K 1/8W 5%	
	R816	OW07-15102-50T	CARBON RESISTOR	1K 1/8W 5%	
	R817	OW07-15272-50T	CARBON RESISTOR	2.7K 1/8W 5%	
	R818	OW07-15562-50T	CARBON RESISTOR	5.6K 1/8W 5%	
	R819	OW07-15682-50T	CARBON RESISTOR	6.8K 1/8W 5%	
	R820	OW07-15333-50T	CARBON RESISTOR	33K 1/8W 5%	
	R821	OW07-15273-50T	CARBON RESISTOR	27K 1/8W 5%	
	R822	OW07-15823-50T	CARBON RESISTOR	82K 1/8W 5%	
	R823	OW07-15750-50T	CARBON RESISTOR	75 1/8W 5%	
	R824	OW07-15471-50T	CARBON RESISTOR	470 1/8W 5%	
	R825	OW07-15681-50T	CARBON RESISTOR	680 1/8W 5%	
	R826	OW07-15182-50T	CARBON RESISTOR	1.8K 1/8W 5%	
	R827	OW07-15912-50T	CARBON RESISTOR	9.1K 1/8W 5%	
	R828	OW07-15392-50T	CARBON RESISTOR	3.9K 1/8W 5%	
	R829	OW07-15822-50T	CARBON RESISTOR	8.2K 1/8W 5%	
	R830	OW07-15153-50T	CARBON RESISTOR	15K 1/8W 5%	
	R831	OW07-15273-50T	CARBON RESISTOR	27K 1/8W 5%	
	R832	OW07-15823-50T	CARBON RESISTOR	82K 1/8W 5%	
	R833	OW07-15100-50T	CARBON RESISTOR	10 1/8W 5%	
	R834	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R835	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R836	OW07-15103-50T	CARBON RESISTOR	10K 1/8W 5%	
	R837	OW07-15560-50T	CARBON RESISTOR	56 1/8W 5%	
	SEN81	OW02-67138-00	SENSOR	RPM7138-V4	
	SW801	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW802	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	

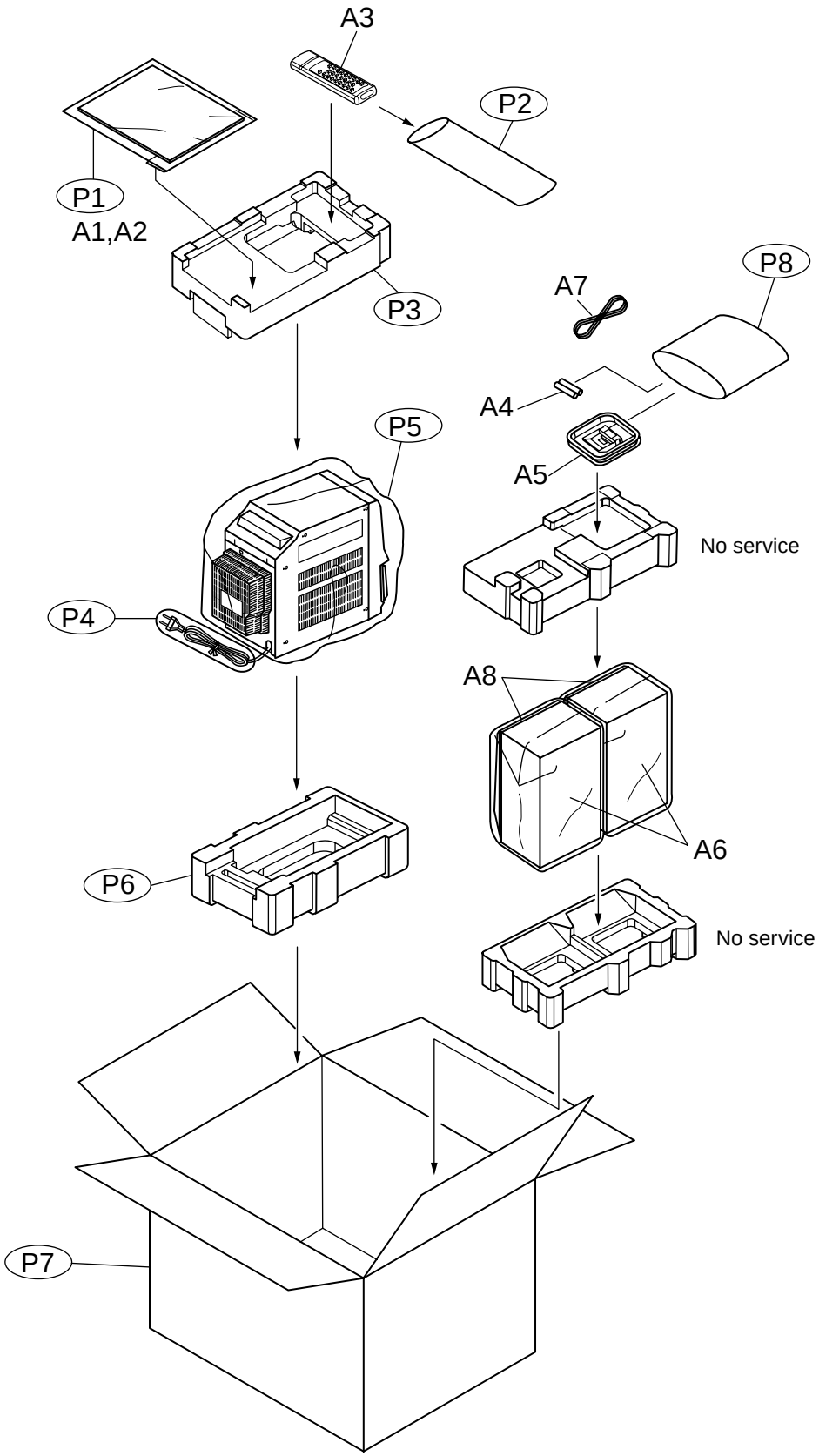
⚠	Item	Parts number	Parts name	Remarks	Area
	SW803	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW804	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW805	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW806	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW807	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW808	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW809	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW810	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW811	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW812	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW813	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW814	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW815	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW816	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW817	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW818	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW819	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	
	SW820	OW16-10101-08S	TACT SWITCH	EVQJAE05R H=5MM	

< MEMO >

Packing materials and accessories parts list

Block No. M 3 M M

Block No. M 5 M M



■ Parts list(Packing)

Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	OW85-91014-02	POLY BAG	1	INSTRUCTIONS	
	P 2	OW85-00025-01A	POLY BAG	1	REMOTE UNIT	
	P 3	OW86-50000-00	POLY FOAM	1	TOP	
	P 4	OW85-00025-01A	POLY BAG	1	AC POWER COARD	
	P 5	OW85-92224-04	POLY BAG	1	SET	
	P 6	OW86-50000-01	POLY FOAM	1	BOTTOM	
	P 7	OW83-30000-16	GIFT BOX	1		
	P 8	OW85-90710-04	POLY BAG	1		

■ Parts list (Accessories)

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	OW88-50000-64	WARRANTY CARD	1		
	A 2	OW88-50000-67	INSTRUCTIONS	1	FRE,SPA,ITA	EN
		OW88-50000-67	INSTRUCTIONS	1	SWE,FIN,DAN,GER	EN
		OW88-50000-63	INSTRUCTIONS	1	GER,FRE,DUT	E
	A 3	OWV-RE-JVC	REMOTE UNIT	1	RM-SUXM5R	
	A 4	----------	BATTERY	2		
	A 5	OW23-04910-02	AM ANT LOOP	1	4910 L= 1M W/JS	
	A 6	UXM55-SPBOX	SPEAKER BOX	2		
	A 7	OW29-21400-01	FM ANT.	1	WIRE 22 1400	
	A 8	OW55-50000-00	SPK NET ASSY	2		