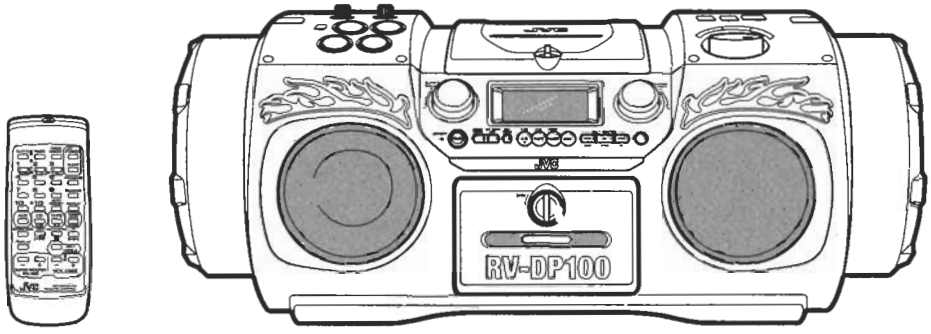
JVC

SERVICE MANUAL

POWERED WOOFER CD SYSTEM

RV-DP100BK



COMPACT disc DIGITAL AUDIO

Area Suffix

B	U.K.
E	Continental Europe
EN	Northern Europe
EV	Eastern Europe
EE	Russian Federation
U	Other Areas
US	Singapore

Contents

This service manual is printed on 100% recycled paper.

No.20839
May. 2000

Preventing static electricity

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

1.1. Grounding to prevent damage by static electricity

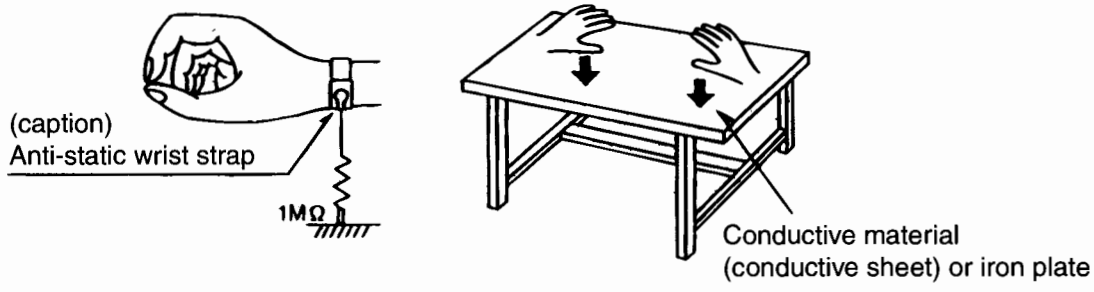
Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players. Be careful to use proper grounding in the area where repairs are being performed.

1.1.1. Ground the workbench

1. 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.

1.1.2. Ground yourself

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



1.1.3. 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.

1.2. 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. Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.

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

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

Dismantling and assembling the CD mechanism assembly

1. Notice regarding replacement of optical pickup

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 to the optical pickup or connected devices.

(Refer to the section regarding anti-static measures.)

1. Do not touch the area around the laser diode and actuator.

2. Do not check the laser diode using a tester, as the diode may easily be destroyed.

3. It is recommended that you use a grounded soldering iron when shorting or removing the laser diode.
Recommended soldering iron: HAKKO ESD-compatible product

4. Solder the short-circuit land on the optical pickup unit.

* In accordance with the following steps, solder the short-circuit land properly.
1. Remove the four screws attaching the micon board as shown in Fig1.
(Refer to "Disassembly method", page 2-8.)
2. Raise the micon board as shown in Fig. 2.
3. Prior to disconnecting the card wire from the connector CN601 on the micon board, solder the short-circuit land on the pickup unit.
4. When reassembling, unsolder the short-circuit land on the pickup unit after connecting the card wire.

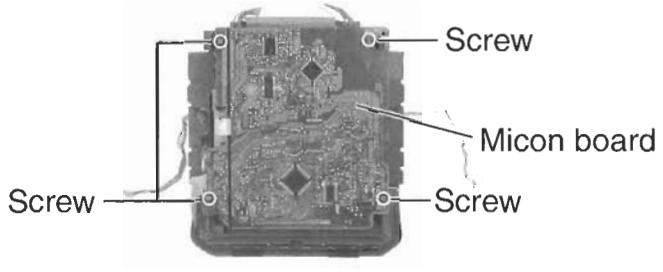


Fig.1

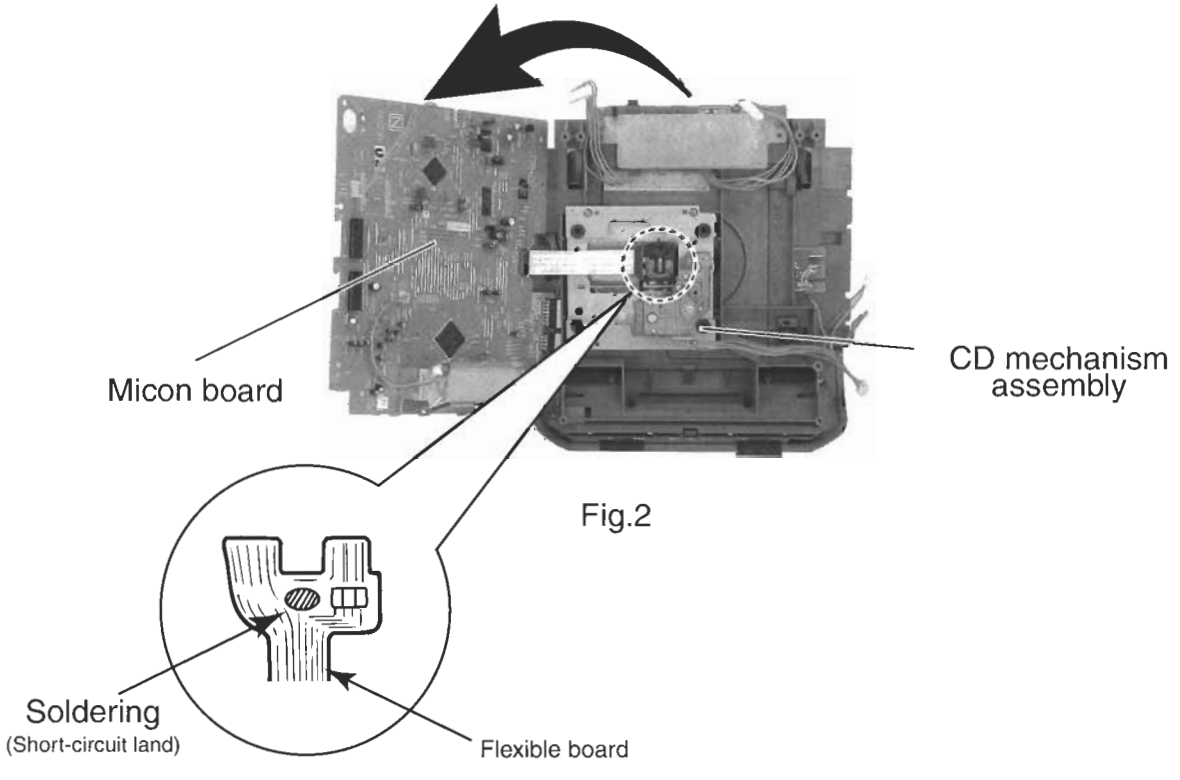
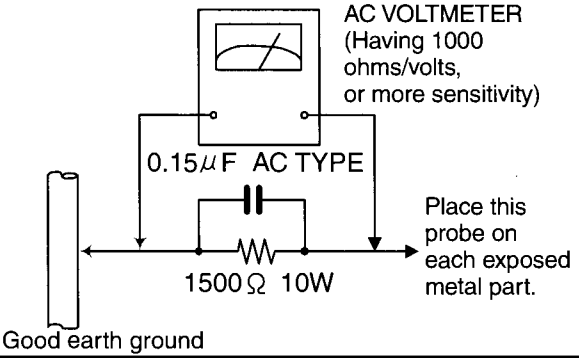


Fig.2

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 eachexposed 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.**

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.

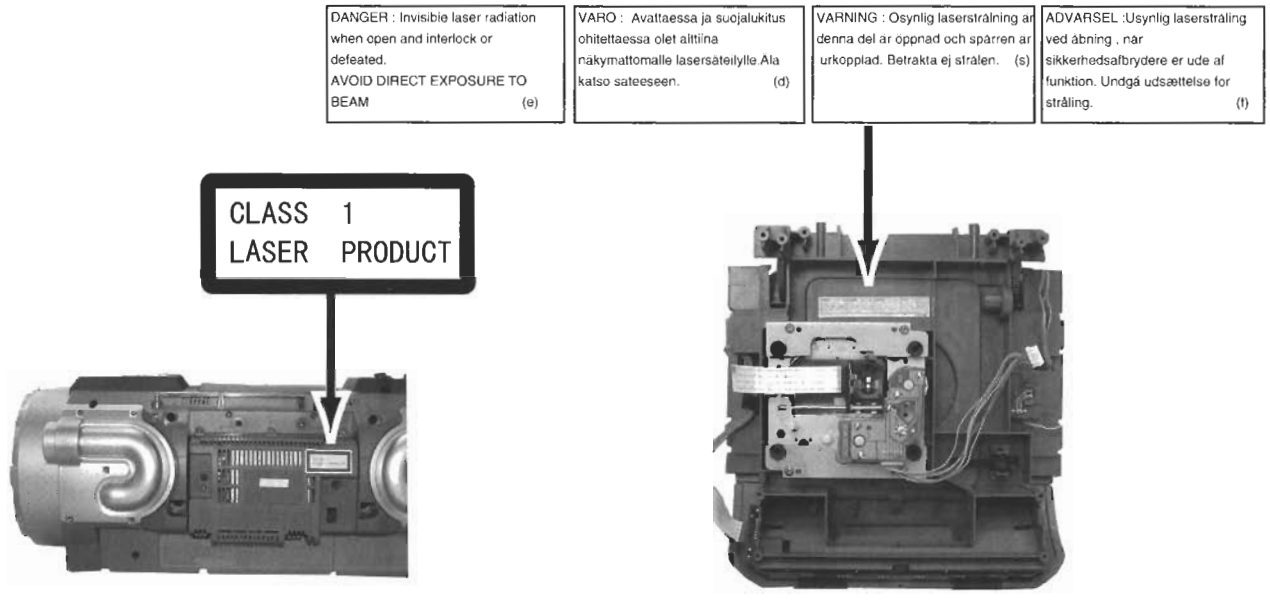
VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle.Älä katso säteeseen.

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

<How to disassemble>

■ Replacing the fuses····· Described at the end of "Disassembly method".(Page 2-10)

■ Removing the cabinet·····

1) Remove the side grilles.
Remove the two screws on the front of each speaker.

2) Remove the mixing unit and the scratch & rhythm unit on the upper right and left sides of the body.

3) Remove the ten screws attaching the cabinet on the back of the body.

4) The front cabinet comes off.

■ Power amplifier board

1) After disassembling the cabinet, remove the CD unit and transformer.

2) Remove the three screws attaching the power amplifier assembly
(Use an offset screwdriver to remove the screw on the bottom).

<Main Body>

■ Removing the side grilles (See Fig.1)

1. Remove the four screws A attaching the side grille on the left side of the body. Pull out the side grille from the body outward.

2. Remove the side grille on the right side in the same way.

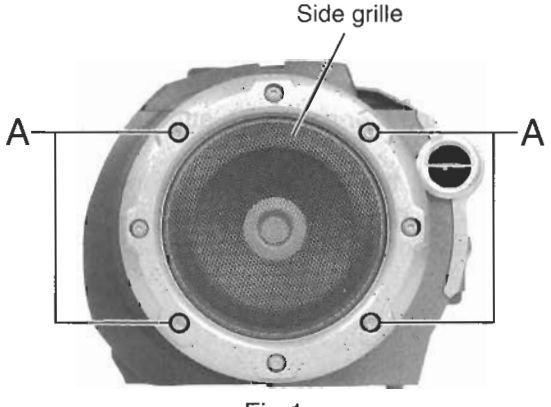


Fig.1

■ Removing the woofer speakers (See Fig.2)

・ Prior to performing the following procedure, remove the right and left side grilles.

※When disassembling without removing the woofer speaker, remove the two screws B on the front of each speaker.

1. Remove the four screws B attaching the woofer speaker on the left side of the body.

2. Disconnect the harness from the speaker terminal on the back of the woofer speaker.

3. Remove the woofer speaker on the right side in the same way.

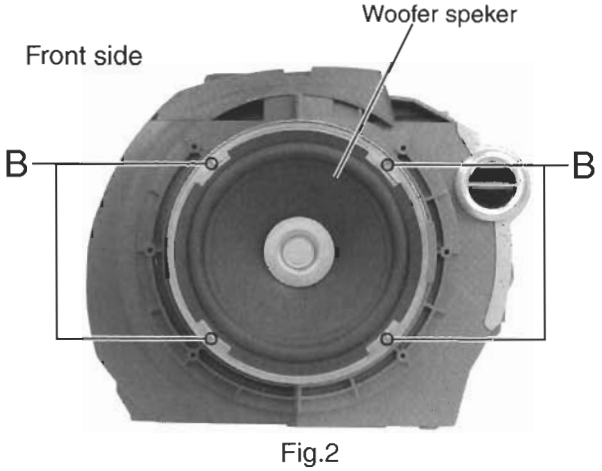


Fig.2

■Removing the scratch & rhythm unit (See Fig.3 and 4)

- Prior to performing the following procedure, remove the left side grilles.

1. Remove the four screws C attaching the scratch & rhythm unit.
2. Disconnect the harness from connector CN924 of the scrstch & rhythm board on the underside of the scratch & rhythm unit.

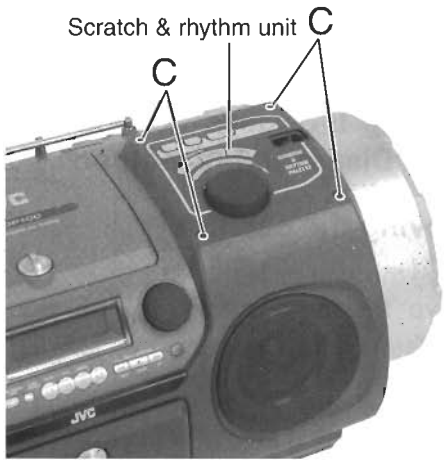


Fig.3

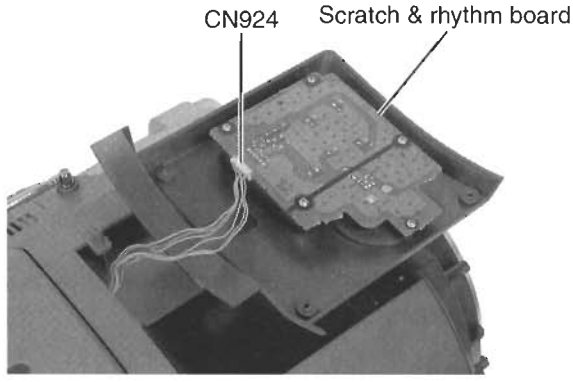


Fig.4

■Removing the mixing unit (See Fig.5 and 6)

- Prior to performing the following procedure, remove the right side grilles.

1. Remove the four screws D attaching the mixing unit.
2. Disconnect the harness from connector CN424 on the mic & guitar volume board and CN923 on the drum key board on the underside of the mixing unit.

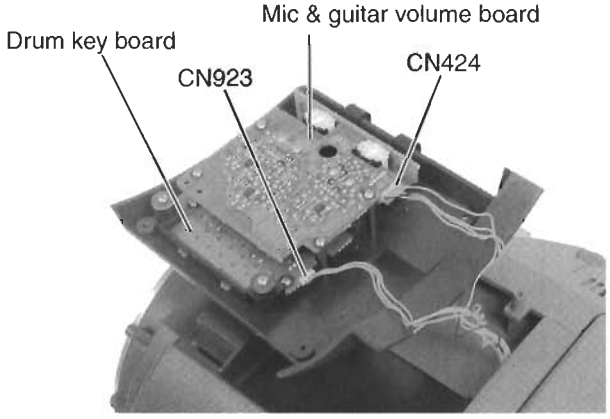


Fig.6

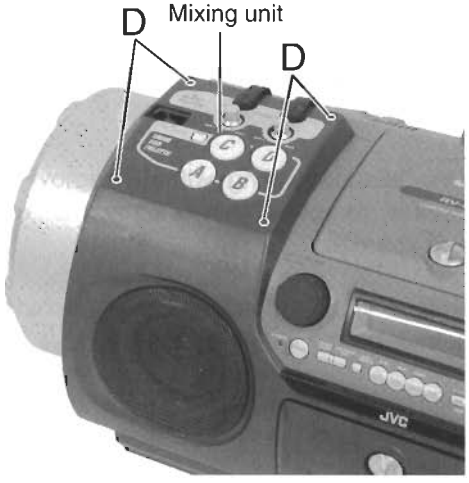


Fig.5

■Removing the front cabinet and the rear cabinet (See Fig.7 and 8)

- Prior to performing the following procedure, remove the side grilles, the woofer speakers, the scratch & rhythm unit and the mixing unit.

ATTENTION: The front cabinet can be removed on condition that the front two screws B attaching the woofer speakers are removed.

1. Remove the ten screws E attaching the rear cabinet on the back of the body.

2. Remove the front cabinet and the rear cabinet (The speaker terminal inside the front cabinet comes off at the same time).

   ATTENTION: When reassembling, make sure that connector CN192 of the rear cabinet is connected to the speaker terminal on the front cabinet.

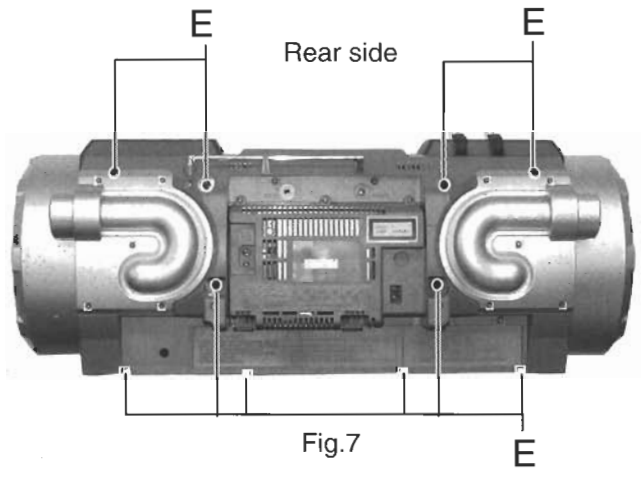


Fig.7

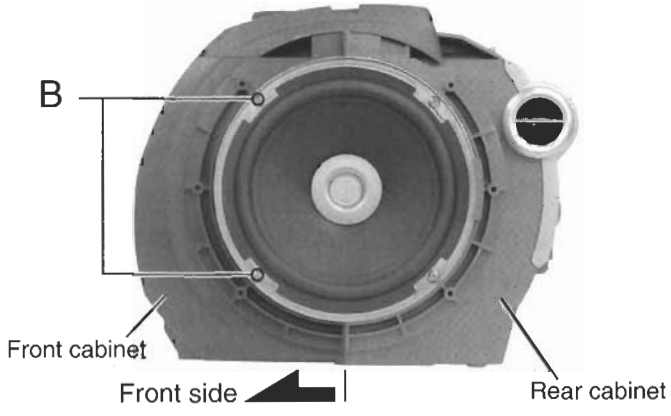


Fig.8

<Rear cabinet>

- Prior to performing the following procedure, remove the front cabinet and the rear cabinet.

■Removing the CD unit (See Fig.9 to 12)

1. Remove the two screws F attaching the CD unit on the back of the rear cabinet.

2. Disconnect the card wires from connector CN916 on the micon board and CN415 and CN413 on the main switch board in the lower left part of the CD unit.

3. Pull out the CD unit toward the front. The connector CN417 and CN418 of the micon board in the lower rear part of the CD unit are disconnected from the main switch board at the same time.

   CAUTION: When reassembling, make sure that connector CN417 and CN418 of the CD unit are connected to connector CN427 and CN428 on the power aboard correctly.

■Removing the cassette mechanism assembly & head shield. (See Fig.10 and 11)

1. Disconnect the card wires from connector CN916 on the micon board and CN415 on the main switch board in the lower left part of the CD unit.

2. Remove the four screws G attaching the cassette mechanism assembly & head shield. Detach the cassette mechanism assembly toward the front.

■Removing the tuner board (See Fig.13)

1. Disconnect the card wire from connector CN1 on the tuner board.

2. Remove the antenna wire from TP1 on the tuner board.

3. Remove the two screws H attaching the tuner board holder.

4. Pull out the tuner board toward the front.

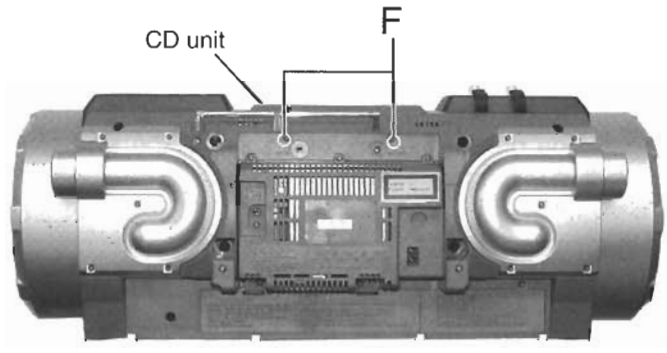


Fig.9

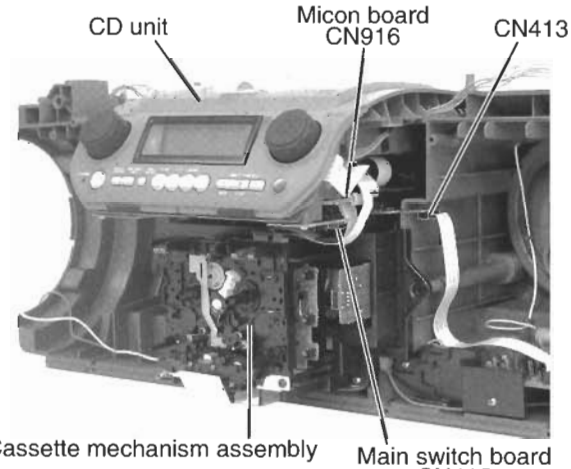


Fig.10

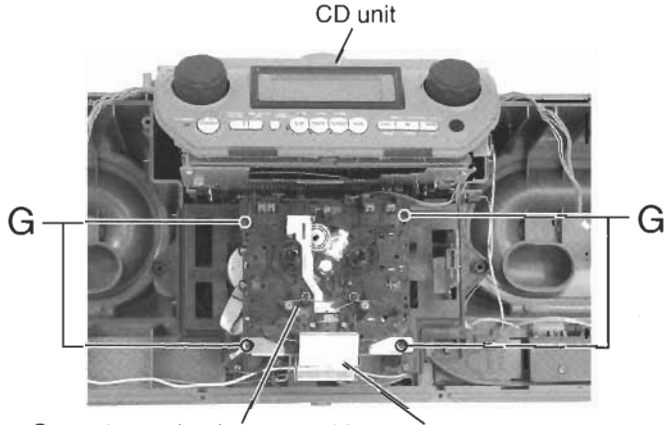


Fig.11

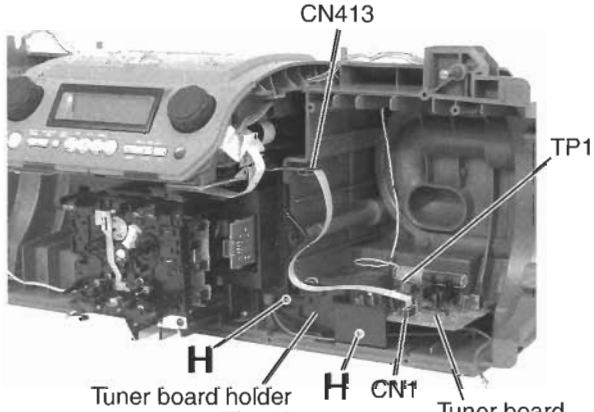


Fig.13

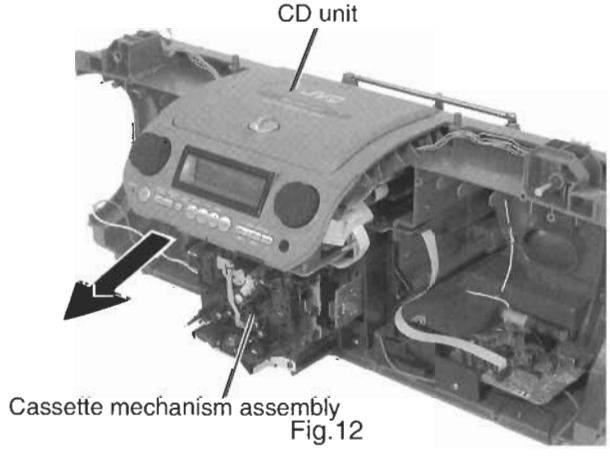


Fig.12

■Removing the cassette mechanism holder (See Fig.14)

- Prior to performing the following procedure, remove the cassette mechanism.

1. Remove the two screws I and the cassette mechanism holder toward the front.

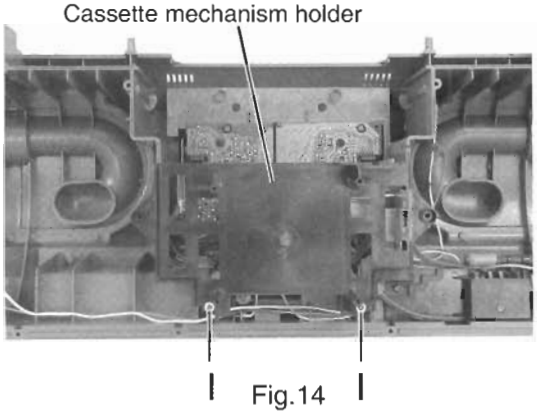


Fig.14

■Removing the power transformer (See Fig.15 and 16)

- Prior to performing the following procedure, remove the cassette mechanism assembly, the cassette mechanism holder and the CD unit.

1. Disconnect the harnesses from connector CN194 on the AC input board and CN195 on the regulator board respectively. Release the harness from the clamp marked a.

2. Remove the four screws J attaching the power transformer.

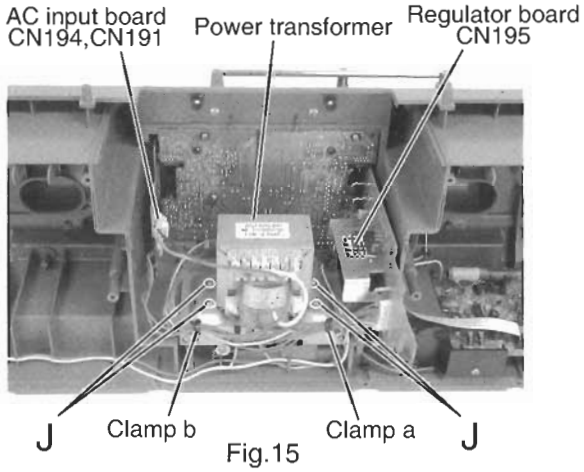


Fig.15

■Removing the regulator board (See Fig.15, 16 and 17)

- Prior to performing the following procedure, remove the cassette mechanism assembly, the cassette mechanism holder and the CD unit.

1. Disconnect the harness from connector CN191 on the AC input board. Release the harness from the clamps marked a and b.

2. Disconnect the harness from connector CN193, CN195 and CN196 on the regulator board.

3. Pull out the regulator board from the cabinet slot under the regulator board toward the front.

4. Remove the screw K attaching the DC input terminal on the rear cabinet.

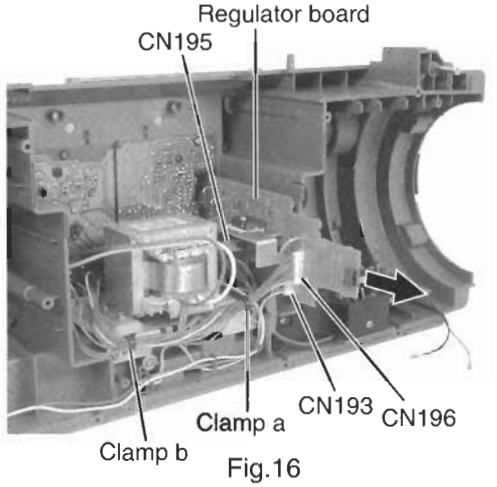


Fig.16

■Removing the rear support and battery lid (See Fig.17 and 18)

1. Remove the two screws L & L' attaching the rear support.

2. Remove the two screws M attaching the battery lid.

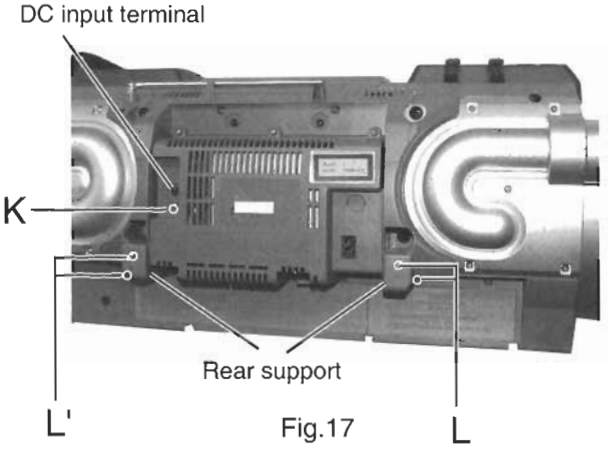


Fig.17

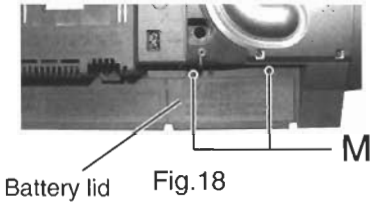


Fig.18

■Removing the power amplifier board (See Fig.19)

- Prior to performing the following procedure, remove the cassette mechanism assembly, the cassette mechanism holder, the CD unit, the power transformer, the regulator board.

1. Release the harness from the clamps marked a, b and the spacer marked c.

2. Remove the three screws N attaching the power amplifier board.

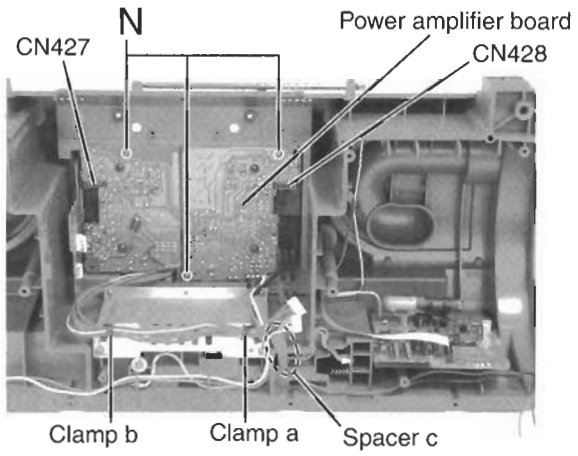


Fig.19

■Removing the AC input board (See Fig.20)

- Prior to performing the following procedure, remove the cassette mechanism assembly, the cassette mechanism holder, the CD unit, the power transformer, the regulator board and the power amplifier board .

1. Remove the two screws O attaching the AC jack on the AC input board.

2. Remove the screw P attaching the voltage selector on the AC input board.
(Only Ver.U/US)

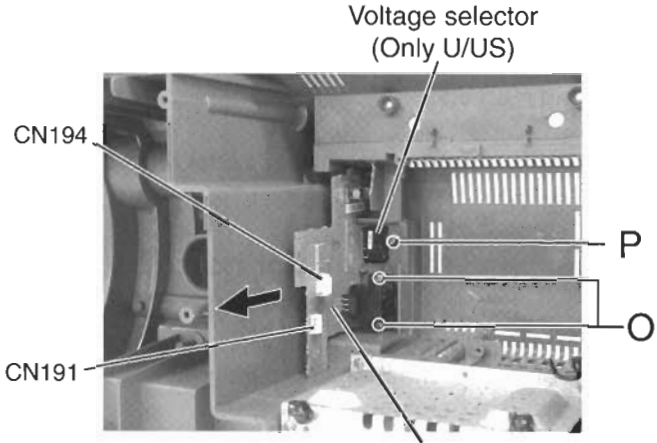


Fig.20

■Removing the battery board 1 and the battery board 2 (See Fig.21)

- Prior to performing the following procedure, remove the cassette mechanism assembly, the cassette mechanism holder and the tuner board holder.

1. Disconnect the harness from connector CN193 of the regulator board. Release the harness from the spacer marked c.

2. Pull out the battery board 1 toward the front.

3. Remove the screw Q and pull out the battery board 2 toward the front.

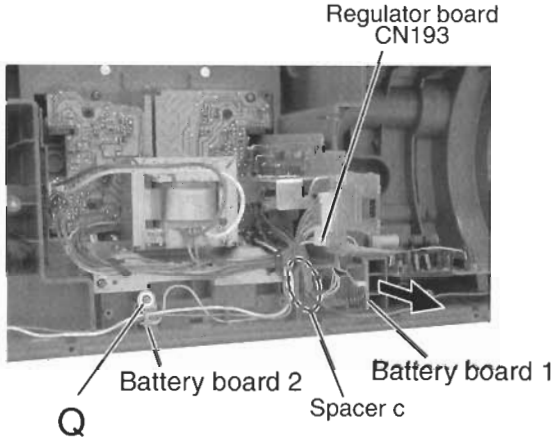


Fig.21

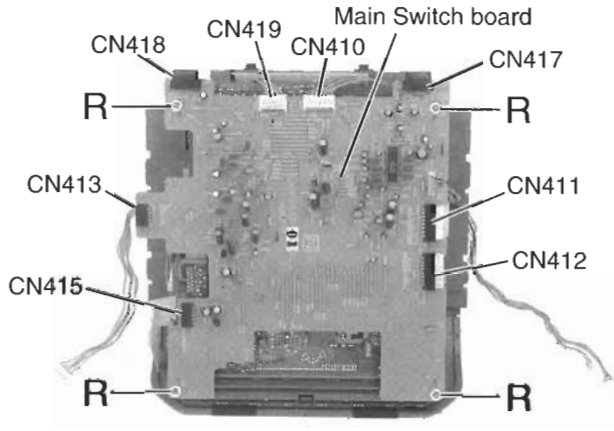
<CD Unit >

- Prior to performing the following procedure, remove the front cabinet, the rear cabinet and the CD unit.

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

1. Disconnect the card wire from connector CN411 and CN412, and the harness from CN419 and CN410 of the main switch board on the underside of the CD unit.

2. Remove the four screw R attaching the main switch board.



CD unit

Fig.22

■Removing the micon board (See Fig.23)

- Prior to performing the following procedure, remove the main switch board.

CAUTION:

- **Prior to disconnecting the card wire from connector CN601 on the micon board, solder the short-circuit land on the pickup unit.**
- **Disconnecting the card wire extending from the pickup unit may cause damage to the pickup unit.**
- **When reassembling, unsolder the short-circuit land on the pickup unit after connecting the card wire to connector CN601.**
- **Fig.25 shows more detail about the short-circuit land.**

1. Disconnect the card wires from connector CN601 and CN911 on the micon board.

2. Remove the spacer fixing the harnesses marked d.

3. Remove the four screws S attaching the micon board.

4. Disconnect the harness from connector CN912 and CN602 on under side of the micon board respectively.

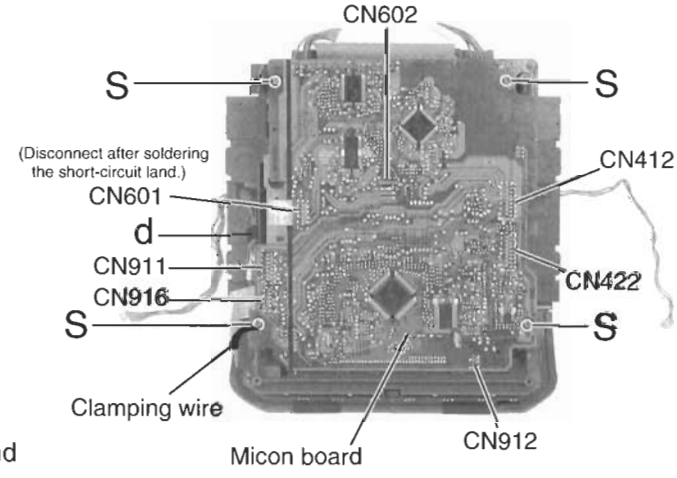


Fig.23

■Removing the CD door switch board (See Fig.24 and 25)

- Prior to performing the following procedure, remove the main switch board and the micon board.

1. Remove the CD door switch board by pushing the two tabs e inward.

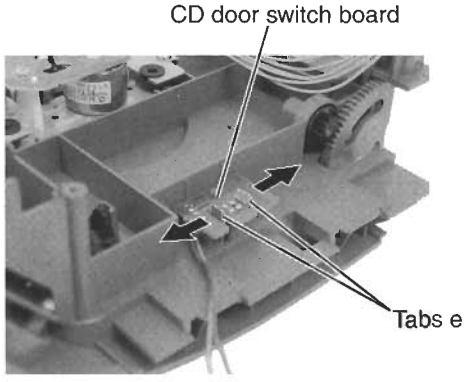


Fig.24

■Removing the CD mechanism assembly (See Fig.25)

- Prior to performing the following procedure, remove the main switch board and the micon board.

1. Remove the four screws T attaching the CD mechanism holder on the underside of the CD case.

2. Remove the CD mechanism holder and the CD cushion from the CD mechanism assembly respectively.

■Removing the headphone / aux board (See Fig.25)

- Prior to performing the following procedure, remove the main switch board and the micon board.

1. Remove the two screws U attaching the headphone / aux board.

■Removing the key switch board (See Fig.26 to 28)

- Prior to performing the following procedure, remove the main switch board and the micon board.

1. Extrude the operation panel assembly from the underside of the CD unit toward the front while pushing the four hooks f outward.

2. Pull out the two volume knobs from the operation panel assembly.

3. Remove the eight screws V attaching the key switch board on the reverse side of the operation panel.

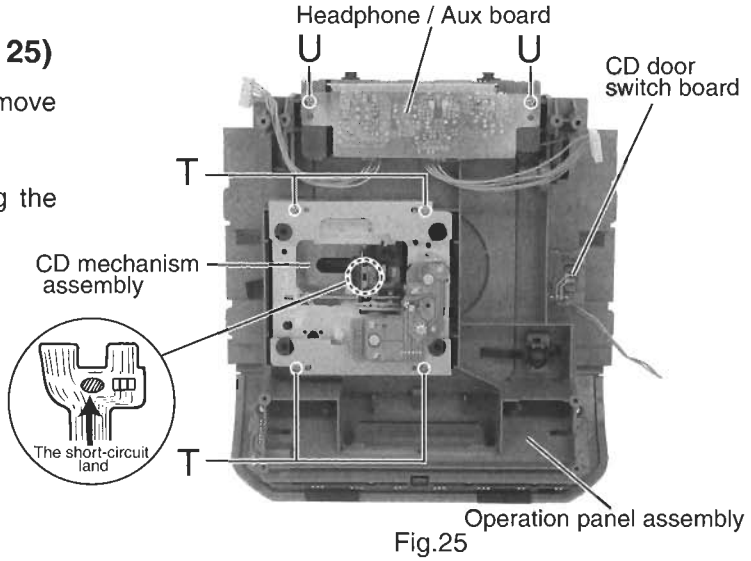


Fig.25

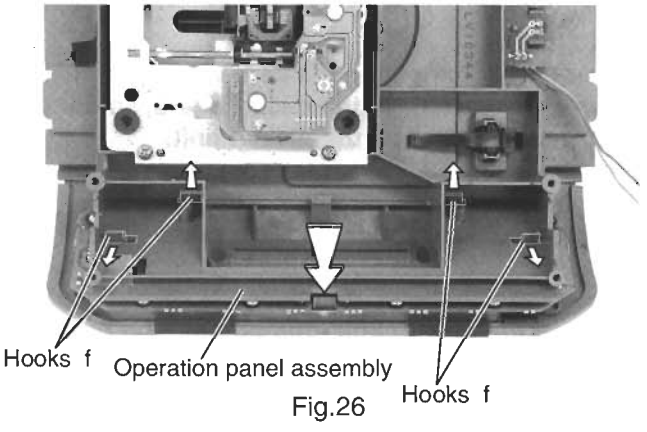


Fig.26

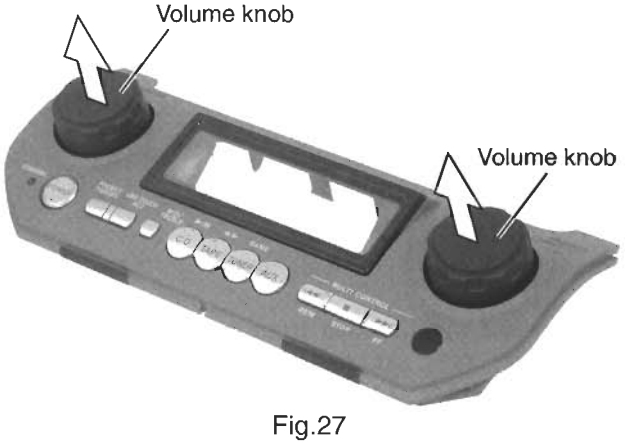


Fig.27

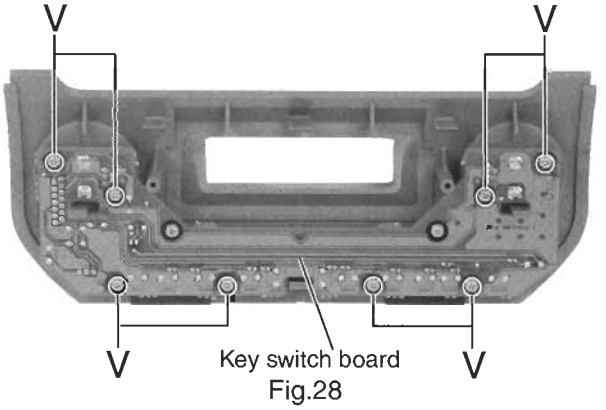


Fig.28

<Scratch & rhythm unit>

- Prior to performing the following procedure, remove the left side grille and the scratch & rhythm unit.

■Removing the scratch & rhithm board (See Fig.29 and 30)

1. Pull out the S & R jogdial knob.
2. Remove the five screws W attaching the scratch & rhythm board on the reverse side of the scratch & rhythm unit.

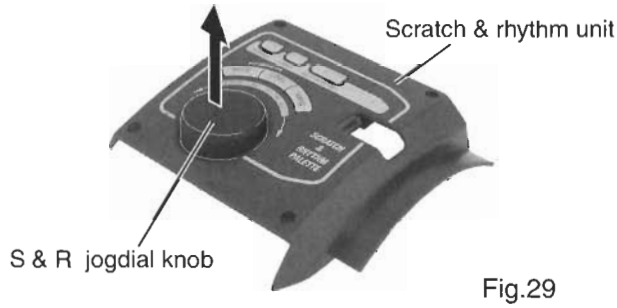


Fig.29

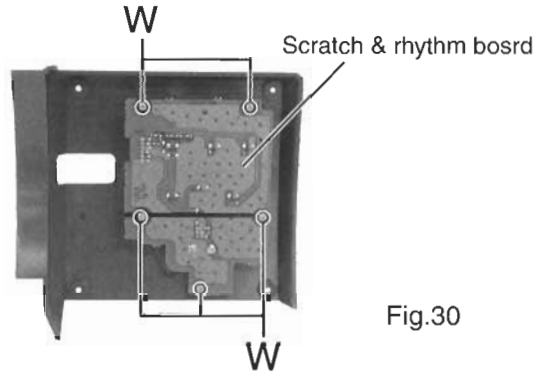


Fig.30

<Mixing unit>

- Prior to performing the following procedure, remove the right side grille and the mixing unit.

■Removing the mic & guitar volum board / mic / guitar jack board / drum key board (See Fig.31 to 35)

1. Pull out the mic knob and the guitar knob. Remove the covers from the mic jack and the guitar jack.
2. Remove the four screws X attaching the mic & guitar volum board and the three screws Y attaching the bracket on the underside of the mixing unit. Remove the mic & guitar volum board together with the mic / guitar jack board.
3. Disconnect the connector CN951 on the mic & guitar volum board from the mic / guitar jack board.
4. Remove the two snap plates attaching the bracket to the mic / guitar jack board by moving them outward.
5. Remove the five screws Z attaching the drum key board.

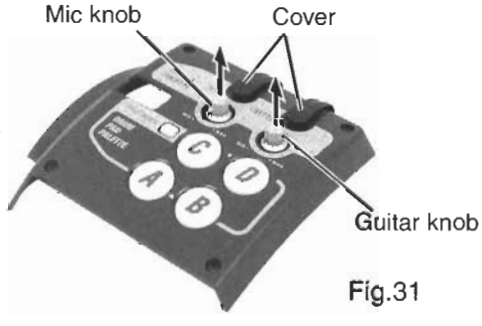


Fig.31

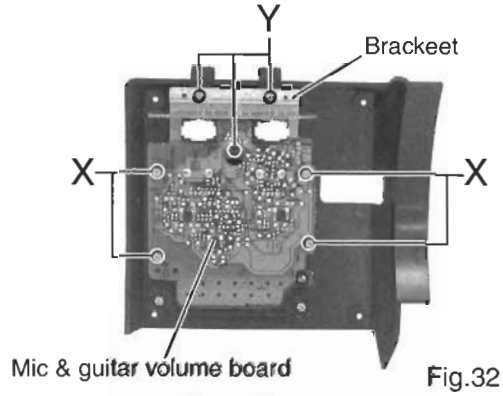


Fig.32

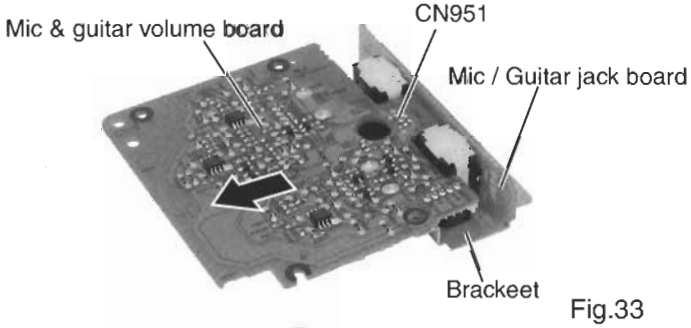


Fig.33

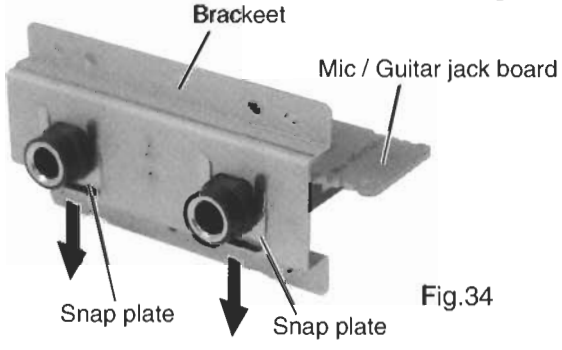


Fig.34

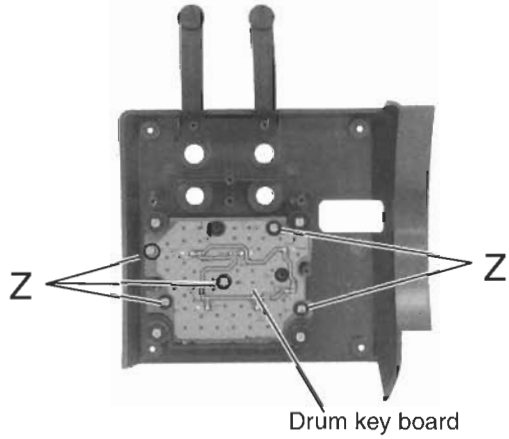


Fig.35

<Front cabinet assembly>

- Prior to performing the following procedure, remove the front cabinet and the rear cabinet.

■ Removing the front speakers (See Fig.36 and 37)

1. Remove the eight screws A attaching the speaker covers on the inside of the front cabinet.
2. Remove the eight screws B attaching the right and left front speakers.
3. Remove the screw C attaching the speaker terminal.

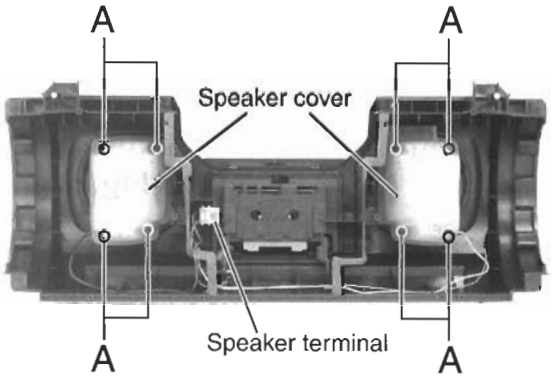


Fig.36

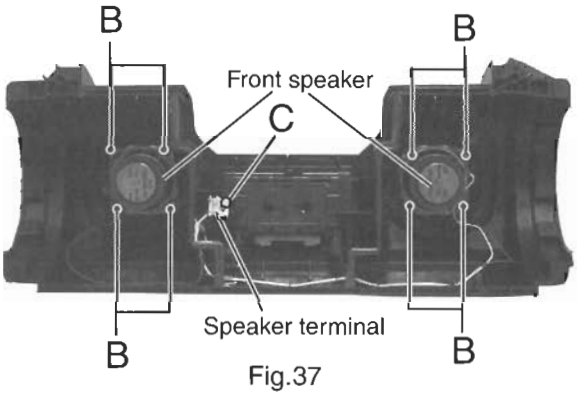


Fig.37

<Replacing a fuse> (See Fig.38 and 39)

CAUTION: It is not necessary to remove the AC input board and the power amplifier board.

1. Remove the battery cover on the back of the body.
2. Remove the five screws D attaching the power amplifier cover on the back of the body.
3. Replace the fuse F1901 of the AC input board and F1902 and F1903 of the regulator board on the back of the body respectively.

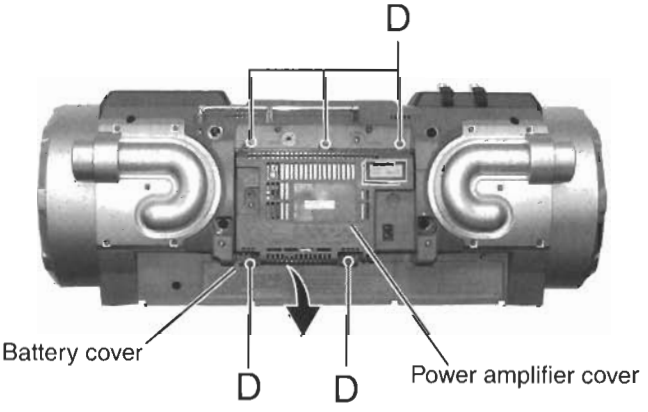


Fig.38

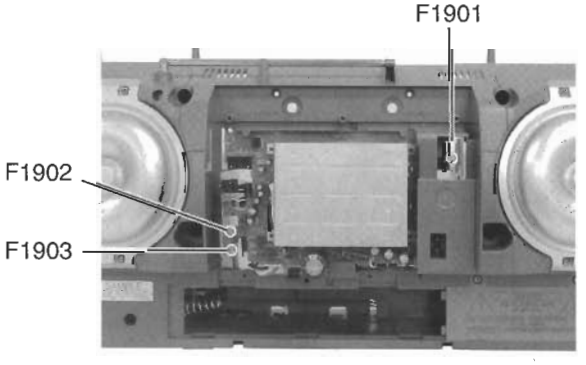


Fig.39

■ Removing the CD pickup unit (See Fig.40)

1. Move the cam gear in the arrow direction "g" . Then, the CD pickup unit will be moved in the arrow direction "h" .

2. According to the above step, shift the CD pickup unit to the center position.

3. While pressing the stopper retaining the shaft in the arrow direction "i" , pull out the shaft in the arrow direction "j".

4. After dismounting the shaft from the CD pickup unit, remove the CD pickup unit

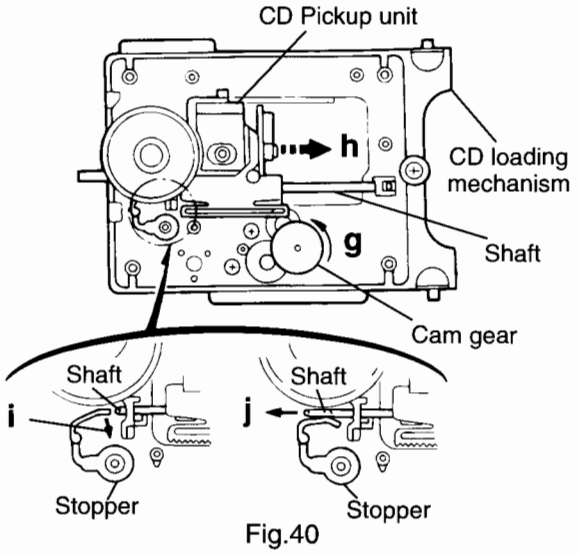


Fig.40

<<Cassette mechanism section>>

■ Removing the playback/recording & eraser head (See Figs. 1 and 2)

1. While shifting the trigger arms seen on the right side of the head mount in the arrow direction, turn the flywheel R in counterclockwise direction until the head mount has gone out with a click (See Fig. 1).
2. When the flywheel R is rotated in counterclockwise direction, the playback/recording & eraser head will be turned in counterclockwise direction from the position in Fig. 2 to that in Fig. 3.
3. At this position, disconnect the flexible P.C. board (outgoing from the playback/recording & eraser head) from the connector CN31 on the head amplifier & mechanism control P.C. board.
4. After dismounting the FPC holder, remove the flexible P.C. board.
5. Remove the flexible P.C. board from the chassis base.
6. Remove the spring **a** from behind the playback/recording & eraser head.
7. Loosen the reversing azimuth screw retaining the playback /recording & eraser head.
8. Take out the playback/recording & eraser head from the front of the head mount.
9. The playback/recoring & eraser head should also be removed similarly according to Steps 1 ~ 8 above.

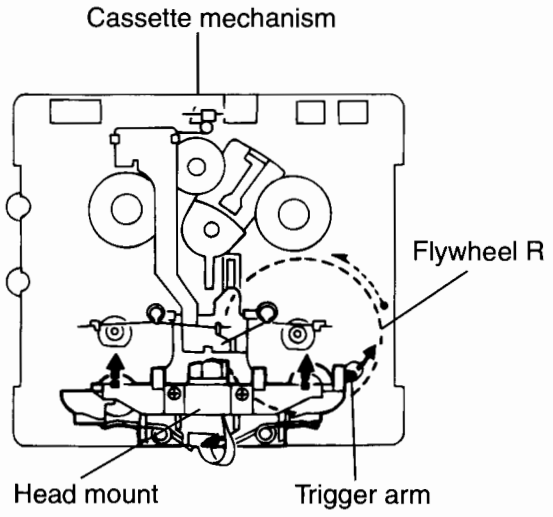


Fig. 1

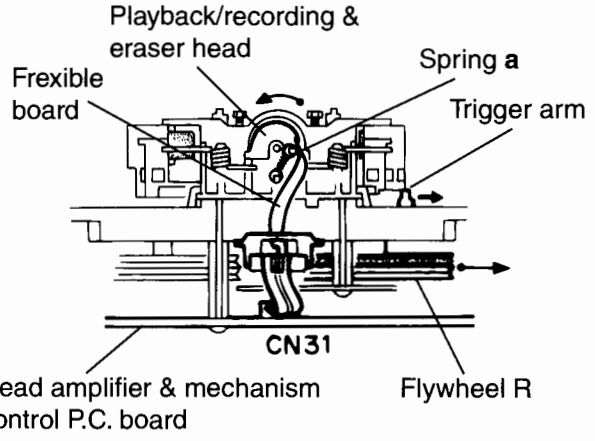


Fig. 2

■ Reassembling the playback/recording & eraser head

1. Reassemble the playback head from the front of the head mount to the position as shown in Fig. 3.
2. Fix the reversing azimuth screw.
3. Set the spring **a** from behind the Playback/Recording & Eraser head.
4. Attach the flexible P.C. board to the chassis base, and fix it with the FPC holder as shown in Fig. 3.
5. The playback/recording & eraser head should also be reassembled similarly to Step 1 ~ 4 above.

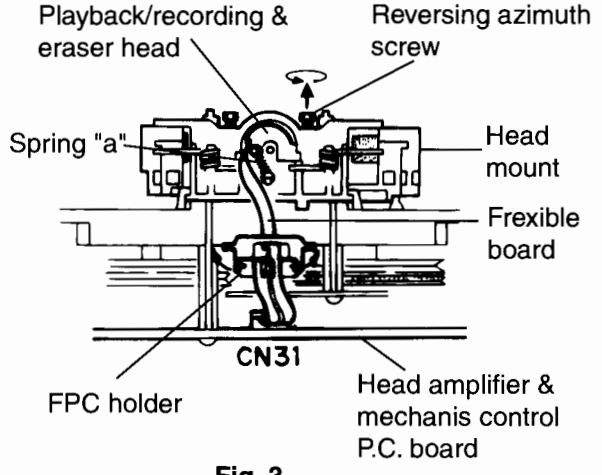


Fig. 3

■ Removing the head amplifier & mechanism control P.C. board (See Fig. 4)

1. Remove the cassette mechanism assembly.
2. After turning over th cassette mechanism assembly, remove the three screws **A** retaining the head amplifier & mechanism control P.C. board.
3. Disconnect the connector CN32 on the P.C. board including the connector CN 1 on the reel pulse P.C. board.
4. When necessary, remove the 4 pin parallel wire soldered to the main motor.

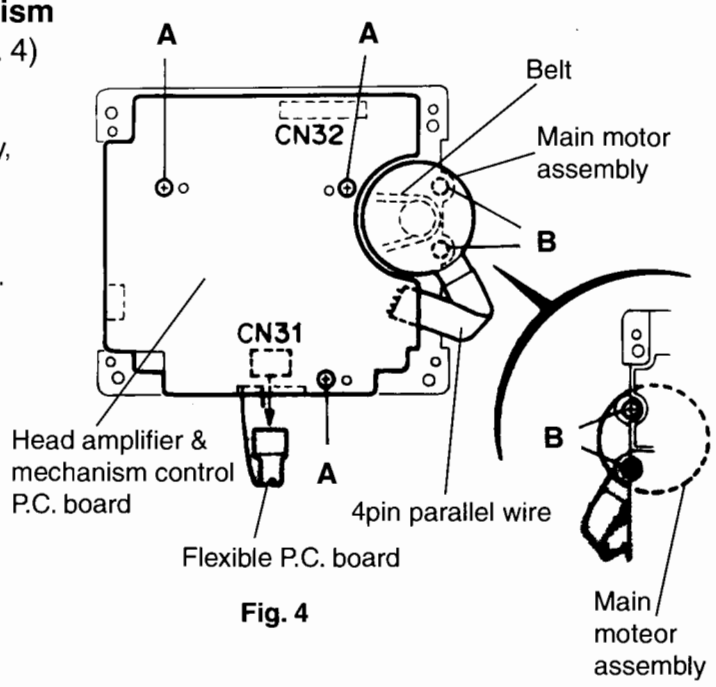


Fig. 4

■ Removing the main motor assembly (See Fig. 4~6)

1. Remove the two screws **B** retaining the main motor assembly (See Fig. 4, 4a).
2. While raising the main motor, remove the capstan belt from the motor pulley (See Fig. 4a).
   Caution 1: Be sure to handle the capstan belt so carefully that this belt will not be stained by grease and other foreign matter. Moreover, this belt should be hanged while referring to the capstan belt hanging method in Fig. 5, 6.

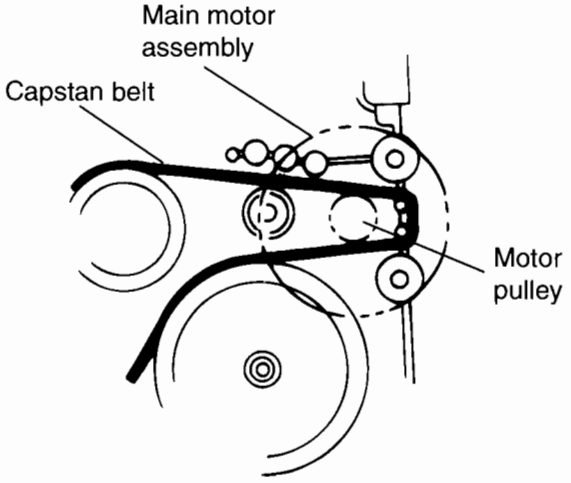


Fig. 4a

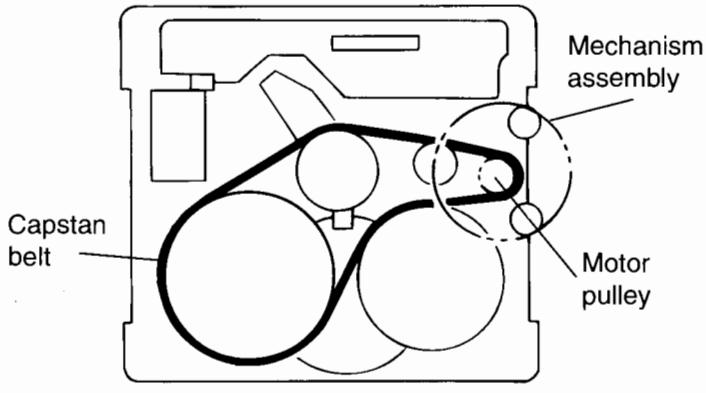


Fig. 5

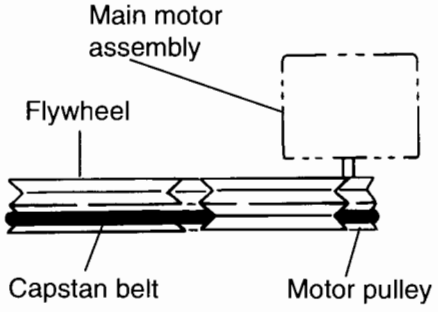


Fig. 6

■ Removing the flywheel

(See Figs. 7 and 8)

1. Remove the head amplifier & mechanism control P.C. board.
2. Remove the main motor assembly.
3. After turning over the cassette mechanism, remove the slit washers **b** and **c** fixing the capstan shafts R and L, and pull out the flywheel R and L respectively from behind the cassette mechanism.

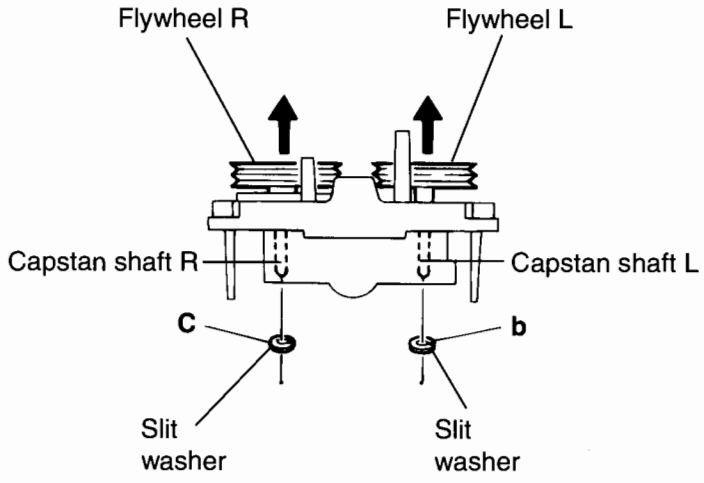


Fig.7

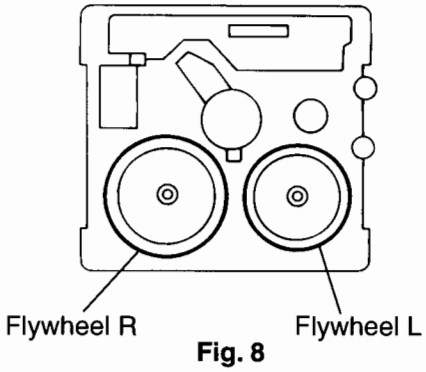


Fig. 8

■ Removing the reel pulse P.C. board and solenoid

(See Fig. 9)

1. Remove the five pawls **d**~**h** and screw **C** reataining the reel pulse P.C. board.
2. From the surface of the reel pulse P.C. board parts, remove the two pawls **i** and **j** retaining the solenoid.

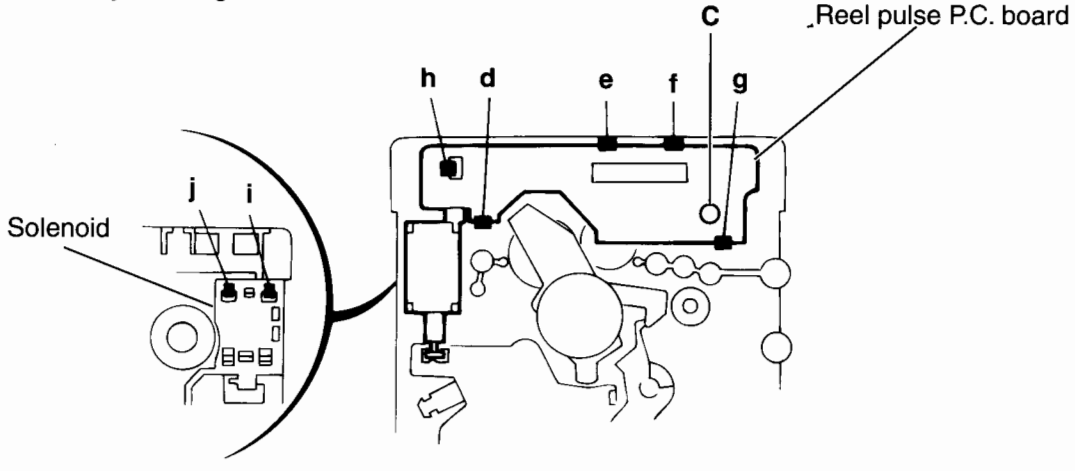


Fig. 9

Adjustment method

■ Measuring devices necessary for adjustment

1. Low-frequency oscillator
   It must have the ability to output 600ohm from 0 dBs at an oscillation frequency of 20 Hz—50 Hz.

2.Attenuator impedance: 600ohm

3.Electronic voltmeter

4.Distortion meter

5.Frequency counter

6.Wow and flutter meter

7.Test tapes
   VT-712: tape speed and rotational distortion (3 kHz)
   VT-724: standard level (1 kHz)
   VT-703: head angle adjustment (10 kHz),
   or use VT-73
   VT-739: reproduction of frequency characteristics
   (1 kHz, 63 Hz, 10 kHz)

8.Blank tape
   Type I : AC-225 (TDK-AD)
   Type II : AC-514 (TDK-SA)

9.Torque gauge: Tension gauge for playback,
fast-forward and rewind.
FWD (TW211A), REW (TW212A)
and FF/REW (TW2231A)

■ Specifications for measurement

Power supply voltage ..... AC 230V (50Hz)
Ver. B/E/EN/EV/EE
AC 110V/127V/230V(50Hz)
Ver. U/US

Standard output ..... Speaker: 0.775V/4ohm
Headphone:0.245V/32ohm
Standard frequency and input level
..... 1 kHz: AUX: -8 dBs
Input level for reproduction of recording characteristics
..... AUX: -28 dBs
Measuring output terminal ..... Speaker: CN633
Load resistance 4ohm

■ Radio input signal

AM frequency ..... 400 Hz
Degree of modulation in AM band 30%
FM frequency ..... 400 Hz
Frequency deviation in FM band ..... 22.5 kHz

■Tuner section

Voltage input to the tuner ..... +B: DC 5.7 V
VT: DC 12 V
Standard measuring output .....26.1 mV (0.28 V) / 3 ohm
Input locations ..... AM: standard loop antenna
FM: TP1 (hot) and TP2 (GND)

■Standard settings for measuring volume

Effective hyper bass BASS1
Volume adjustment ..... VOL. 23
MID / TRE .....VOL. 0

Precautions for measuring

1.Input 30 pF and 33 kohm to the IF sweeper output and 0.082 μF and 100 kohm to the sweeper input, respectively.

2.Lower the output level of the IF sweeper as much as possible in the adjustable range.

3.The IF sweeper needs no adjustment as it is a fixed component.

4.It is not necessary to perform any kind of adjustment on the MPX, as a ceramic oscillator is used for measuring.

5.FM tracking adjustment is not necessary as a fixed coil is used.

6.The grounding circuit is separate from the input and output. Therefore, be sure to connect to ground carefully when measuring both the input and output voltages simultaneously using 2 channels of the electronic voltmeter.

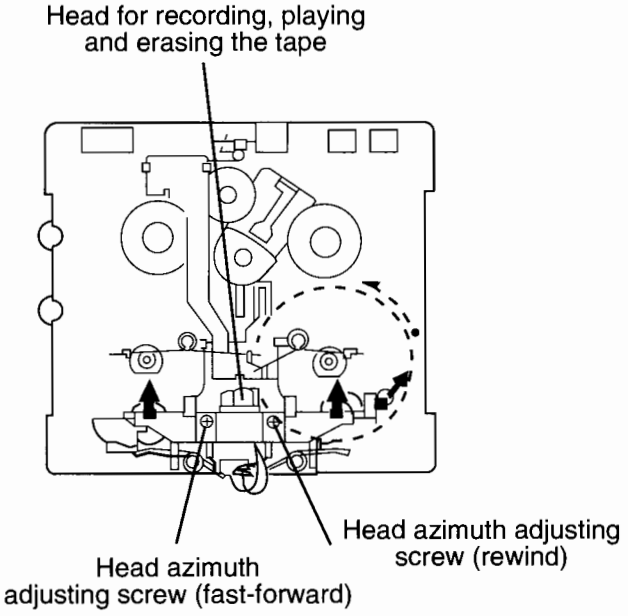
7.The speaker's minus terminal cannot be connected to ground when using a BTL format amplifier. Therefore, do not connect any type of ground wire to this terminal. The OTL format is used with this system.

8.Use a large wire to connect to the dummy impedance generator when measuring the output.

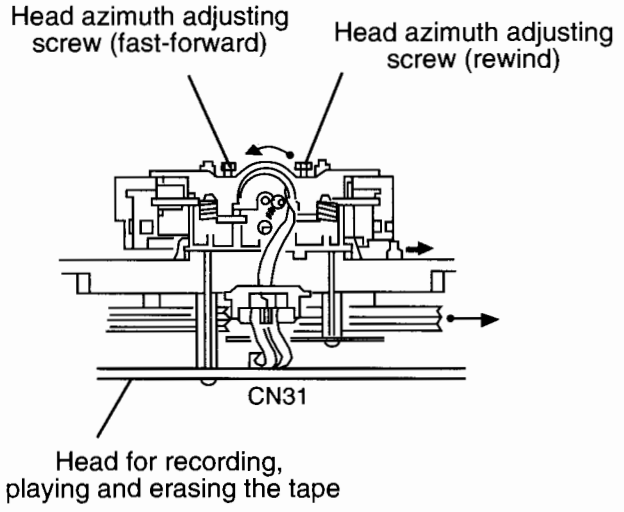
9.Be sure to use a band pass filter (DV-12) when using mixed tape.

Location of parts to be adjusted

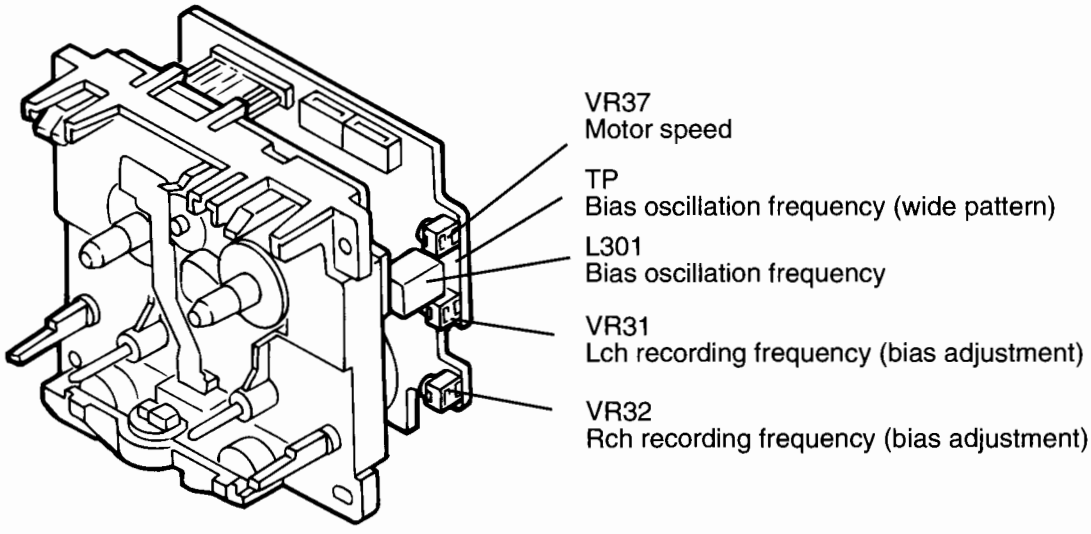
■Cassette handling mechanism



■Cassette handling mechanism (reverse side)



■ Location of parts to be adjusted



■ Adjustment of cassette handling mechanism

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Confirmation of head angle	Test tape: VT-703 (10 kHz) Measuring output terminal: Speaker terminal, speaker (R) (Load resistance: 4ohm), headphone terminal	(1) Play back the VT-703 test tape. (2) Adjust the head azimuth screws so that the tape playback mechanism records the maximum output level in both the fast-forward and rewind direction. (3) In all cases, both the fast-forward and rewind direction should be adjusted using head azimuth screws.	Maximum output	Adjust the head azimuth screws when changing the head.
Confirmation of tape speed	Test tape: VT-712 (3 kHz) Measuring output terminal: Headphone terminal	Adjust VR37 so that the frequency counter records 3,015 Hz ±15 Hz when playing back the end of the VT-712 test tape (3 kHz) in the fast-forward direction.	Tape speed of cassette deck: 3,015 Hz ±15 Hz	VR37

■ Items to be confirmed and standard values

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Difference in speed between fast-forward and rewind	Test tape: VT-712 (3 kHz) Measuring output terminal: Speaker terminal, speaker (R) (Load resistance: 4), headphone terminal	The difference between fast-forward and rewind should be less than 60 Hz on the frequency counter when playing back the beginning of the VT-712 test tape (3 kHz) in both directions.	Less than 60 Hz	Should be confirmed when changing the motor.
Wow and flutter	Test tape: VT-712 (3 kHz) Measuring output terminal: Headphone terminal	Wow and flutter should be recorded at less than 0.25% (WRMS) when playing back the VT-712 test tape (3 kHz) in the fast-forward direction.	Less than 0.25% (WRMS)	

■ Electronic performance

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Confirmation of output	Measuring output terminal: CN34-5 or 7-terminal preamp base Test tape: VT-724	Confirm that the output from the CN34-5 or 7-terminal preamp base connector is -25 dBs ±3 dB when playing back the VT-724 test tape. Reference value: The output from the headphone terminal is -7 dB ±4 dB.	Output of CN34-5 terminal: -25 dBs ±3 dB Difference between Lch and Rch: within 3 dB	
Confirmation of reproduction of frequency characteristics	Measuring output terminal: Headphone terminal Test tape: VT-739	Confirm that the 10 kHz reproduction level is -1 dB ±5 dB compared to the 1 kHz reproduction level when playing back the VT-739 test tape.	Difference between 10 kHz and 1 kHz should be -1 dB ±5 dB.	
Recording bias frequency	Fast-forward or rewind direction: Test tape: TYPE II (AC-514) Measuring terminal: Bias TP on the base	Switch the bias (beat cut switch) between 1 and 2 to confirm that the frequency changes. Load the test tape (AC-514 for TYPE II) into the mechanism and preset it to the record-pause mode. Confirm that the bias TP frequency on the base is 100 kHz ±6 kHz.	100 kHz ±6 kHz	

■ Standard values for confirmation of electronic performance

Items	Condition	Method for adjustment and confirmation	Standard value	Parts to be adjusted
Erasing current (standard and reference value)	Fast-forward and rewind direction: ・Recording mode ・AC-514 for TYPE II, AC-225 for TYPE I Measuring terminal: Both erase head ter minals	Load the test tape (AC-514 for TYPE II, AC-225 for TYPE I) into the tape playback mechanism and preset it to the record-pause mode. After setting it to the recording mode, send 1 M in series to the erase head and measure the erasing current from both erase head terminals.	TYPE II: 110 mA TYPE I: 75 mA	
Adjustment of reproduction of frequency characteristic s	Standard frequencies: 1 kHz and 10 kHz (REF: -20 dB) Test tape: TYPE II: AC-514 Measuring input terminal: OSC IN	Load the test tape (AC-514 for TYPE II, AC-225 for TYPE I) into the tape playback mechanism and preset it to the record-pause mode. Input the standard value of -20 dB and the standard frequencies of 1 kHz and 10 kHz repeatedly to the microphone input from the transmitter in the recording mode. Adjust VR31 for Lch and VR32 for Rch so that the difference in level between 10 kHz and 1 kHz is -1 dB ± 5 dB. Repeat the above for TYPE I and confirm that the difference in level is -XdB ± dB.	Difference in output between 1 kHz and 10 kHz: -1 dB ± 5 dB	Lch: VR31 Rch: VR32

Flow of functional operation until TOC read

Power ON → Play Key → Slider turns REST SW ON.

Check Point: Confirm that the voltage at the pin5 of CN602 is "H"\"L"\"H".

Slider turns REST SW ON.
↓
Automatic tuning of TE offset
↓
Laser ON → Check that the voltage at the pin40 of IC603 is + 5V?
↓
Detection of disc
↓
Automatic tuning of Focus offset
↓
Automatic measurement of Focus S-curve amplitude → Confirm that the Focus error S-cuve signal at the pin28 of IC603 is approx.2Vp-p
↓
Disc is rotated → Confirm that the signal from pin24 IC603 is 0V as a accelerated pulse during approx.400ms.
↓
Focus servo ON (Tracking servo ON)
↓
Automatic measurement of Tracking error amplitude → Confirm the waveform of the Tracking error signal. at the pin 25 of IC601 (R609) (See fig-1)
↓
Automatic tuning of Tracking error balance
↓
Automatic tuning of Focus error balance
↓
Automatic tuning of Focus error gain
↓
Automatic tuning of Tracking error gain
↓
TOC reading → Confirm the eys-pattern at the lead of TP1
↓
Play a disc

■ Tracking error waveform at TOC reading

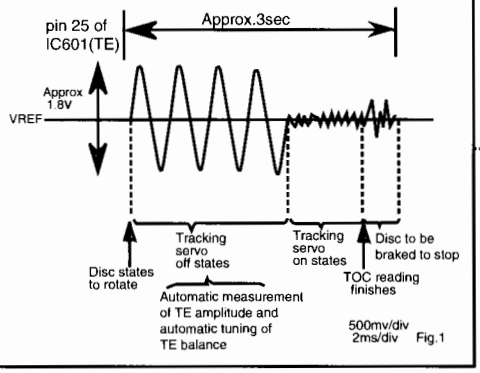


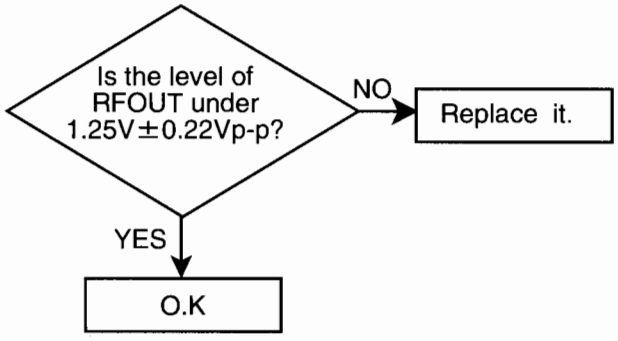
Fig.1

Maintenance of laser pickup

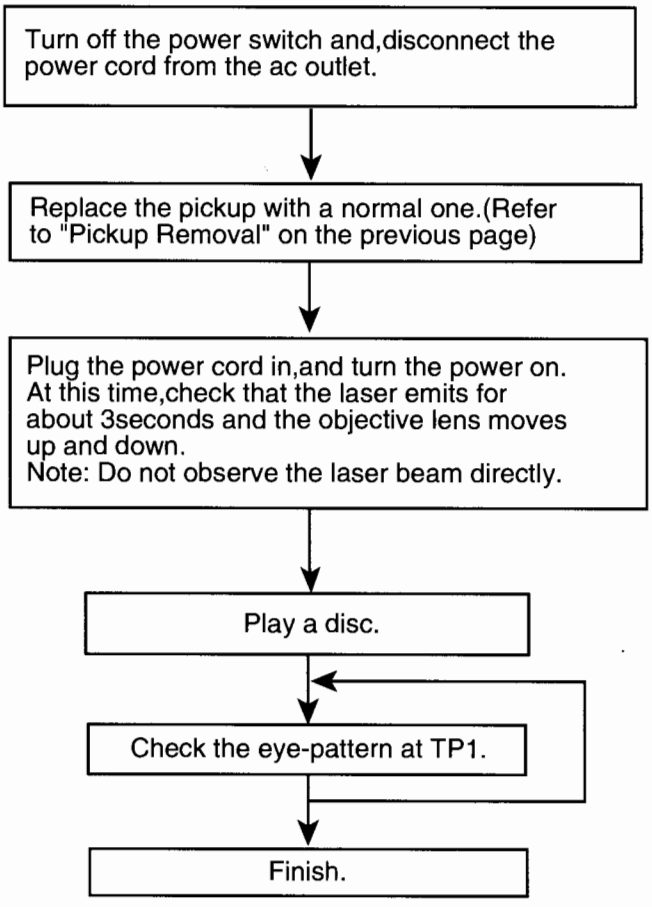
(1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.

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

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



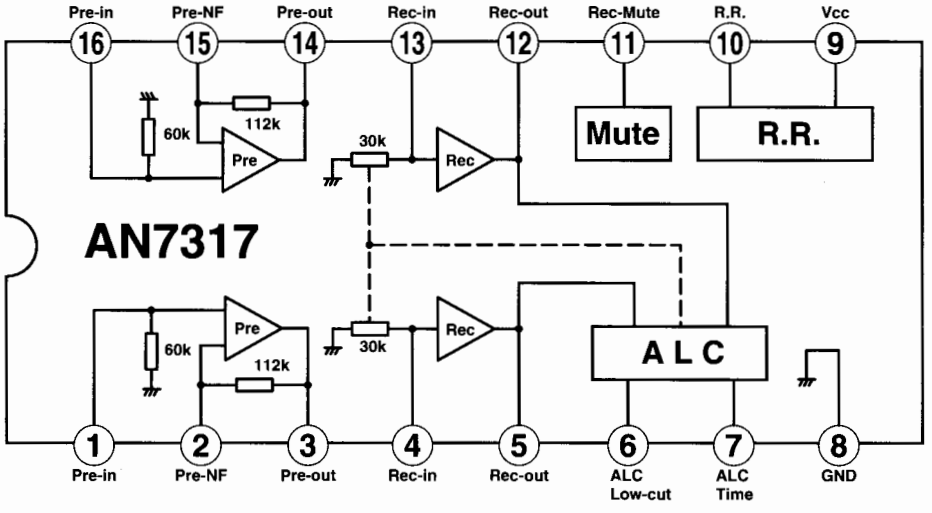
Replacement of laser pickup



(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 is adjusted while the pickup is functioning normally,the laser pickup may be damaged due to excessive current.

Description of major ICs

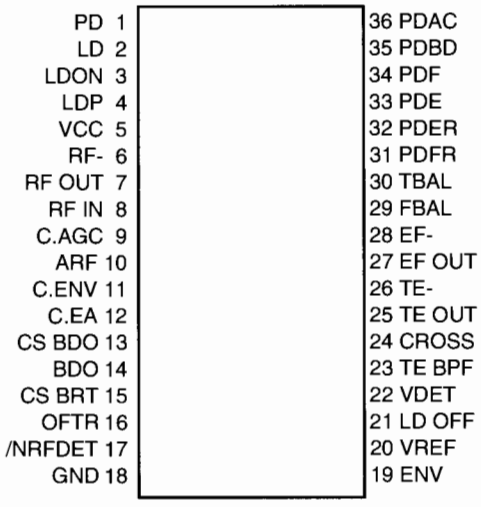
■ AN7317(IC32) : ALC & Pre Amplifier



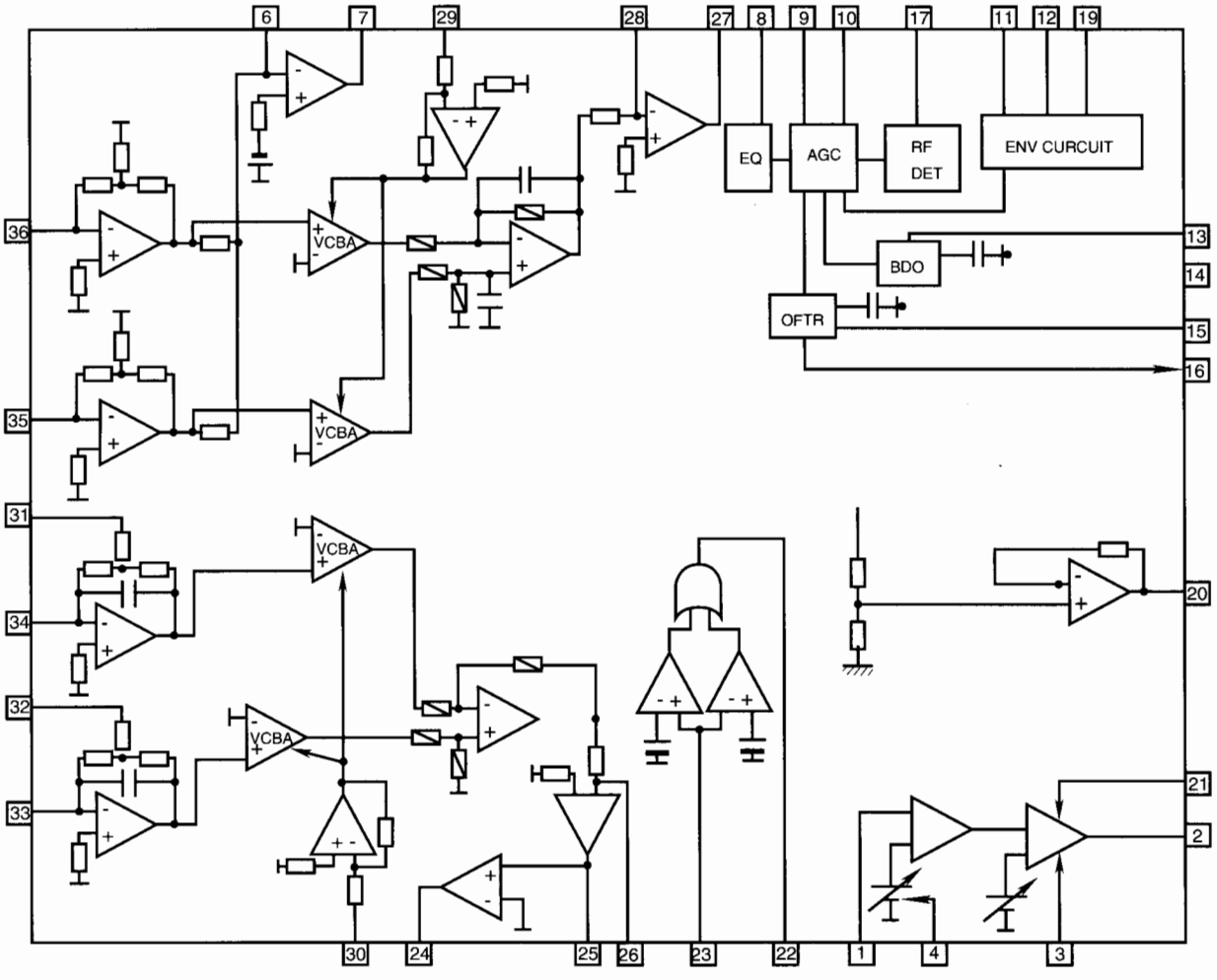
Pin No.	Pin Descriptions
1	Channel 1 Playback Amplifier Input
2	Channel 1 Playback Amplifier Negative Freed back
3	Channel 1 Playback Amplifier Output
4	Channel 1 Record Amplifier Input
5	Channel 1 Record Amplifier Output
6	ALC Low-Cut
7	ALC Time
8	Ground
9	Vcc
10	Ripple Filter
11	Record - Amplifier Mute
12	Channel 2 Record Amplifier Output
13	Channel 2 Record Amplifier Input
14	Channel 2 Playback Amplifier Output
15	Channel 2 Playback Amplifier Negative Freedback
16	Channel 2 Playback Amplifier Input

■AN8806SB-W(IC601) :RF&SERVO AMP

1.Pin layout



2.Block diagram



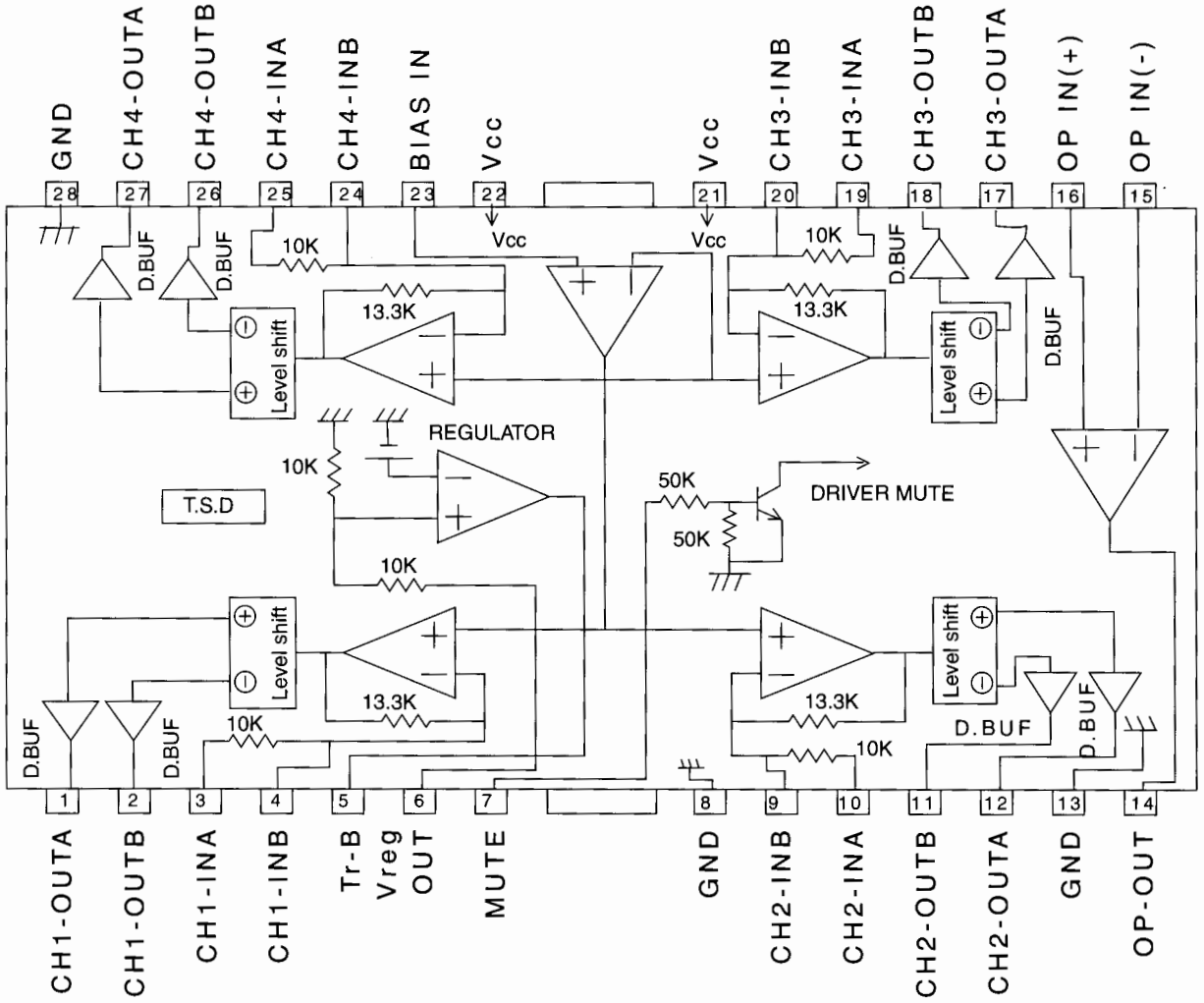
3. Pin function

AN8806SB

Pin No.	symbol	I/O	Function
1	PD	I	APC amp . Input terminal
2	LD	O	APC amp . Output terminal
3	LD ON	I	LD ON/OFF control terminal
4	LDP	--	Connect to GND
5	VCC	--	Power supply
6	RF-	I	RF amp . Reversing input terminal
7	RF OUT	O	RFamp . Output terminal
8	RF IN	I	AGC input terminal
9	C.AGC	I/O	AGC loop filter connection terminal
10	ARF	O	ARF output terminal
11	C.ENV	I/O	RF detection capacity connection terminal
12	C.EA	I/O	HPF-amp capacity connection terminal
13	CS BDO	I/O	Capacity connection terminal for RF discernment side envelope detection
14	BDO	O	BDO output terminal
15	CS BRT	I/O	Capacity connection terminal for RF discernment side envelope detection
16	OFTR	O	OFTR output terminal
17	/NRFDET	O	RFDET output terminal
18	GND	--	Connect to GND
19	ENV	O	3TENV output terminal
20	VREF	O	VREF output terminal
21	LD OFF	--	APC OFF control terminal
22	VDET	O	VDET output terminal
23	TE BPF	I	VDET input terminal
24	CROSS	O	CROSS output terminal
25	TE OUT	O	TE amp . Output terminal
26	TE-	I	FE amp . Reversing input terminal
27	FE OUT	O	FE amp . output terminal
28	FE-	I	FE amp . Reversing input terminal
29	FBAL	I	F.BAL control terminal
30	TBAL	I	T.BAL control terminal
31	PDFR	I/O	I-V amp conversion resistance adjustment terminal
32	PDER	I/O	I-V amp conversion resistance adjustment terminal
33	PDF	I	I-V amp input terminal
34	PDE	I	I-V amp input terminal
35	PD BD	I	I-V amp input terminal
36	PD AC	I	I-V amp input terminal

■ BA6897FP-W(IC602) : 4channel driver

1.Pin layout & Block diagram



T.S.D;Thermal shutdown

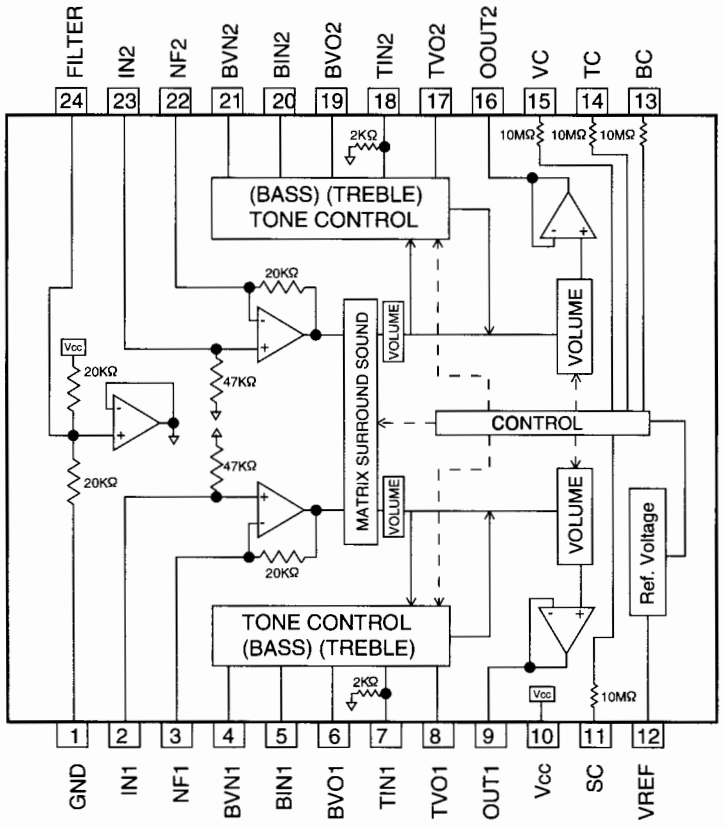
D.BUF:Drive buffer

2.Pin function

Pin NO.	Symbol	Function	Pin NO.	Symbol	Function
1	CH1-OUTA	Driver CH1 - output	15	OP IN(-)	Operation amplifier - input
2	CH1-OUTB	Driver CH1 + output	16	OP IN(+)	Operation amplifier + output
3	CH1-INA	Driver CH1 input	17	CH3-OUTA	Driver CH3 - output
4	CH1-INB	Driver CH1 gain adjustment Input terminal	18	CH3-OUTB	Driver CH3 + output
5	Tr-B	Connect to the base of external Tr	19	CH3-INA	Driver CH3 input
6	Vreg OUT	Fixed voltage output	20	CH3-INB	Driver CH3 gain adjustment Input terminal
7	MUTE	Mute control terminal	21	Vcc	Power supply terminal
8	GND	GND	22	Vcc	Power supply terminal
9	CH2-INB	Driver CH2 gain adjustment Input terminal	23	BAIS IN	Bias amplifier input terminal
10	CH2-INA	Driver CH2 input	24	CH4-INB	Driver CH4 gain adjustment Input terminal
11	CH2-OUTB	Driver CH2 + output	25	CH4-INA	Driver CH4 input
12	CH2-OUTA	Driver CH2 - output	26	CH4-OUTB	Driver CH4 + output
13	GND	Sub-slate GND	27	CH4-OUTA	Driver CH4 - output
14	OPOUT	Operation amplifier output	28	GND	Sub-slate GND

■ BH3852S (IC501) : E.Volume

1. Block diagrams

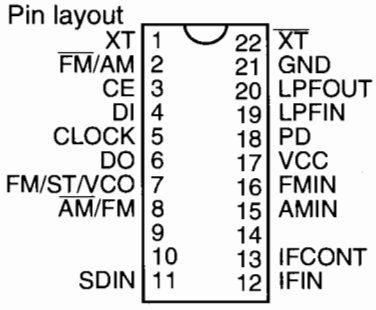


2. Pin function

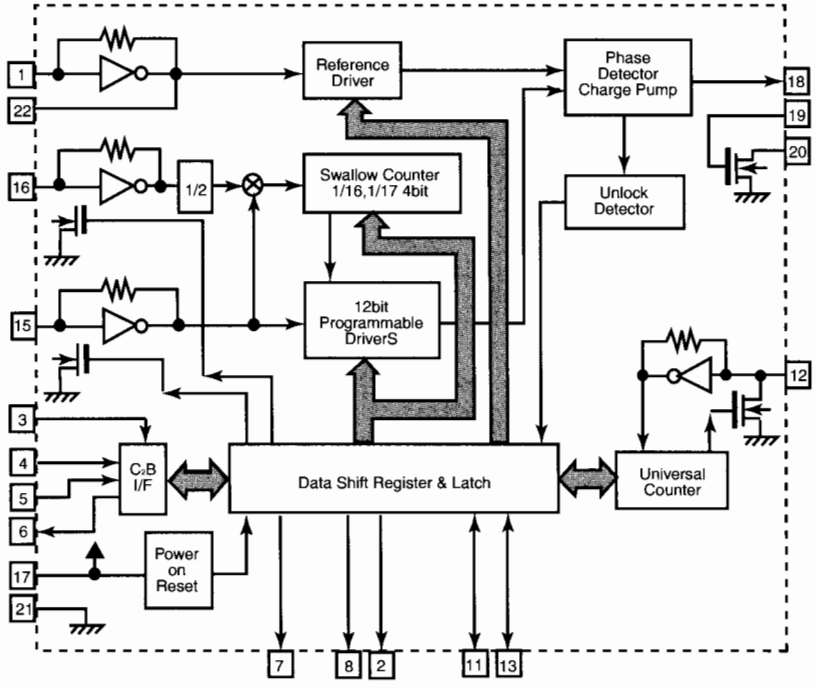
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	GND	-	Connect to GND.	13	BASS	I	Terminal for bass control.
2	IN1	I	Terminal for 1ch volume input.	14	TRE	I	Terminal for treble control.
3	NF1	I	Terminal for gain adjustment of input step AMP.	15	VOL	I	Terminal for volume control.
				16	OUT2	O	Terminal for 2ch volume output.
4~6	BASS1	-	Terminal for connection of 1ch low-frequency filter.	17.18	TRE2	-	Terminal for connection of 2ch high-frequency filter.
7.8	TRE1	-	Terminal for connection of 1ch high-frequency filter.	19~21	BASS2	-	Terminal for connection of 2ch low-frequency filter.
9	OUT1	O	Terminal for 1ch volume output.	22	NF2	I	Terminal for gain adjustment of input step AMP.
10	VCC	-	Terminal for power supply.				
11	LIVE	-	Terminal for surround control.	23	IN2	I	Terminal for 2ch volume input.
12	VREF	O	Terminal for reference voltage output.	24	VSET	-	Terminal for filter.

■ LC72136N (IC2) : PLL Frequency Synthesizer

1. Pin layout



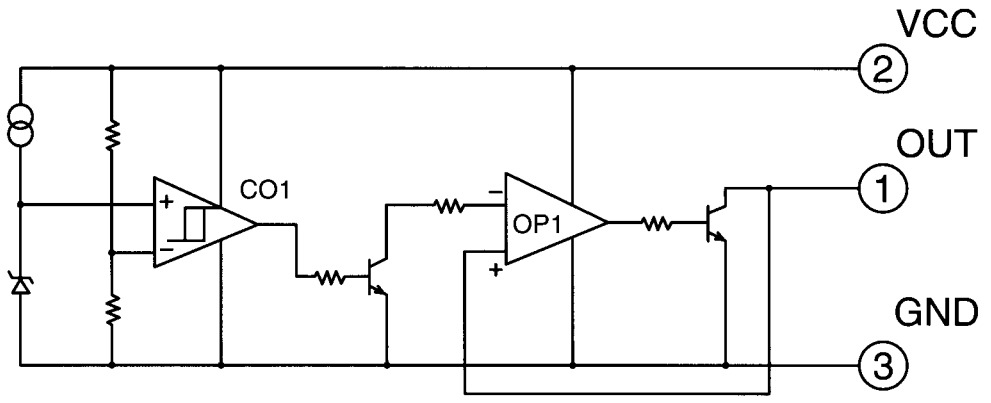
2. Block diagram



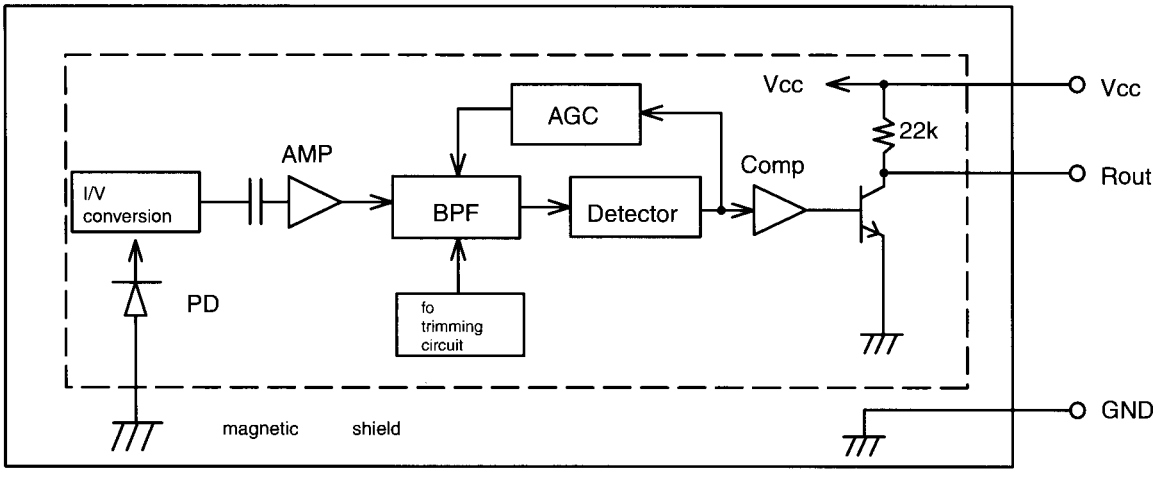
3. Pin function

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

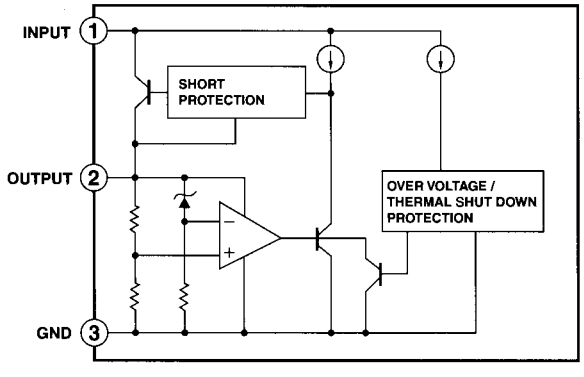
■ IC-PST9131-T(IC902) : Reset



■ RPM6938-SV4(IC251) : Remote Censor

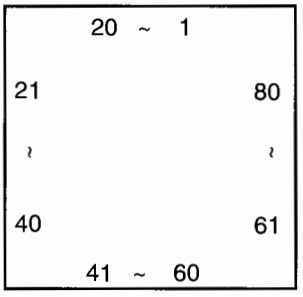


■ TA78DL06S(IC390) : 6VOLTAGE REGULATOR

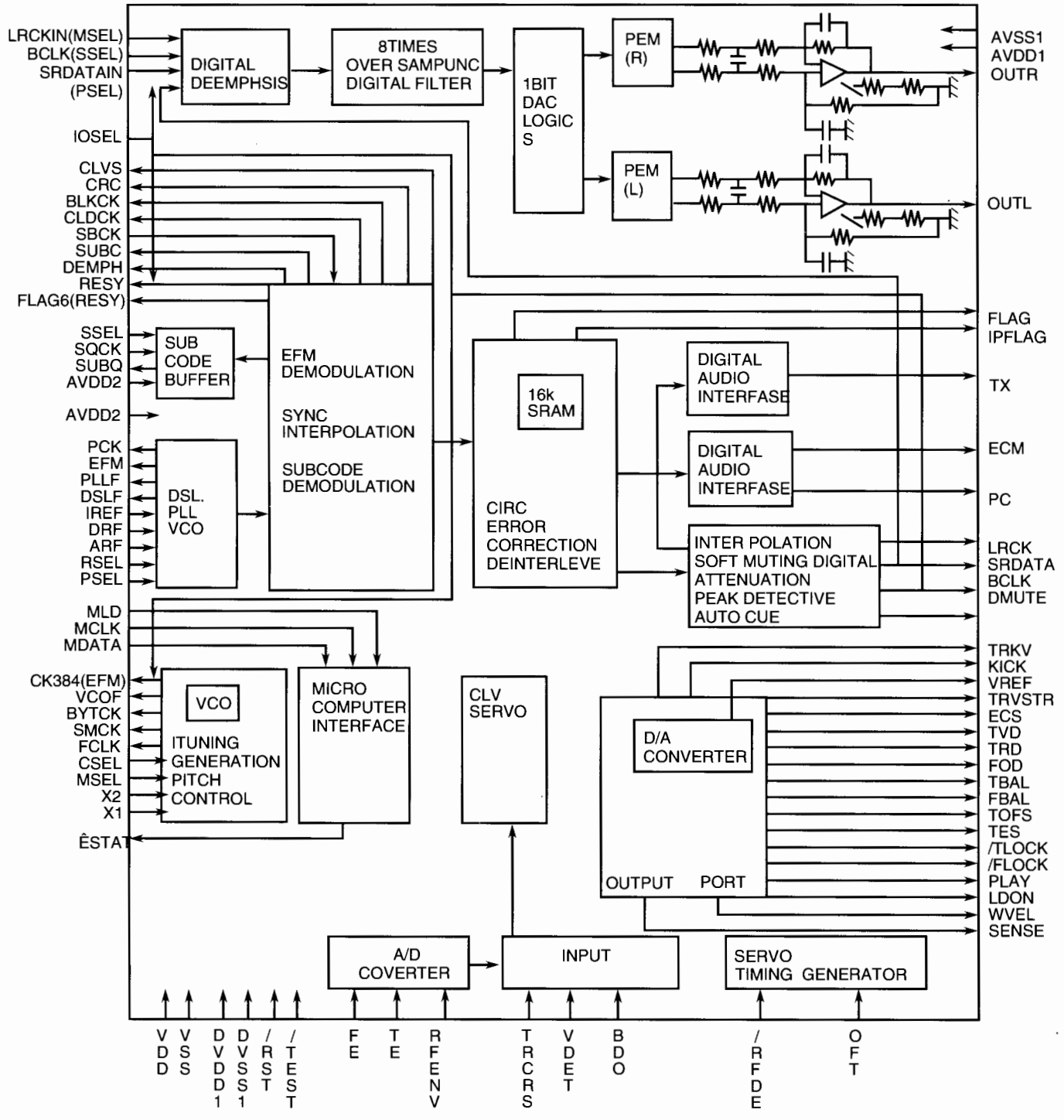


■ MN35510(IC603):DIGITAL SERVO&DIGITAL SIGNAL PROCESSER

1. Terminal Layout



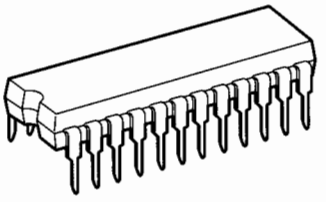
2.Block Diagram

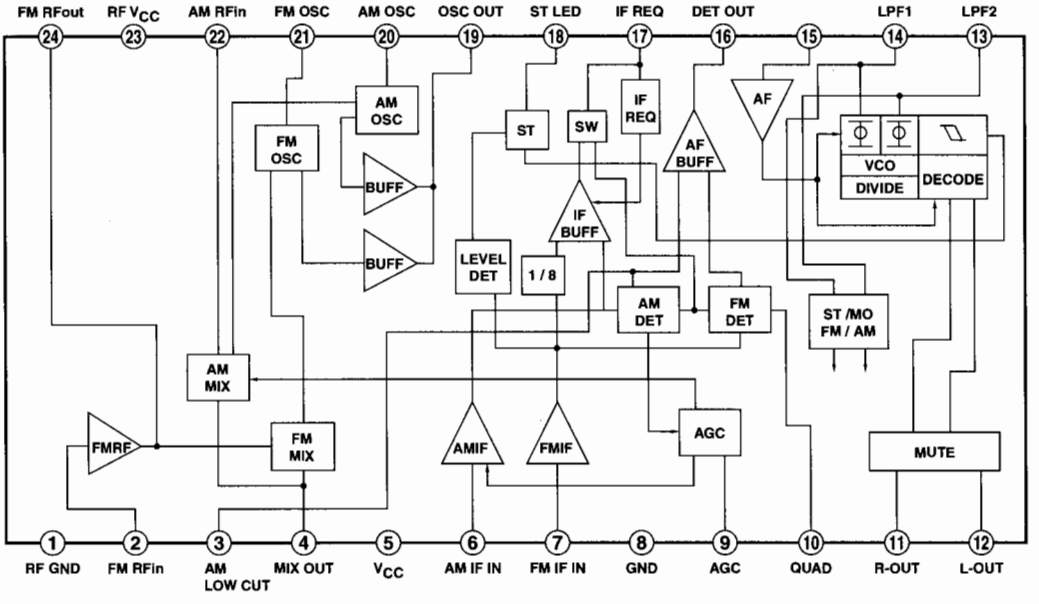


3. Description

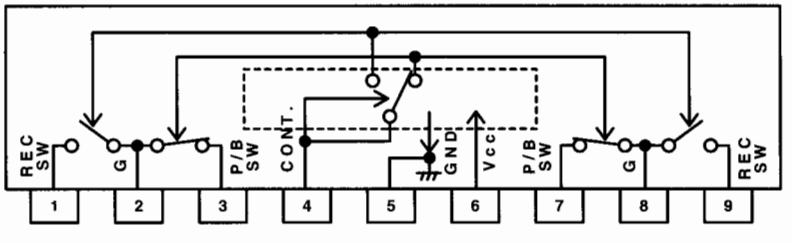
Pin No.	symbol	I/O	Description	Pin No.	symbol	I/O	Description
1	BCLK	O	Not used	41	TES	O	Tracking error shunt signal output(H:shunt)
2	LRCK	O	Not used	42	PLAY	–	Not used
3	SRDATA	O	Not used	43	WVEL	–	Not used
4	DVDD1	–	Power supply (Digital)	44	ARF	I	RF signal input
5	DVSS1	–	Connected to GND	45	IREF	I	Reference current input pin
6	TX	O	Digital audio interface output	46	DRF	I	Bias pin for DSL
7	MCLK	I	μcom command clock signal input (Data is latched at signal's rising point)	47	DSLF	I/O	Loop filter pin for DSL
8	MDATA	I	μcom command data input	48	PLLF	I/O	Loop filter pin for PLL
9	MLD	I	μcom command load signal input	49	VCOF	–	Not used
10	SENSE	O	Sence signal output	50	AVDD2	–	Power supply(Analog)
11	FLOCK	O	Focus lock signal output Active :Low	51	AVSS2	–	Connected to GND(Analog)
12	TLOCK	O	Tracking lock signal output Active :Low	52	EFM	–	Not used
13	BLKCK	O	sub-code - block - clock signal output	53	PCK	–	Not used
14	SQCK	I	Outside clock for sub-code Q resister input	54	PDO	–	Not used
15	SUBQ	O	Sub-code Q -code output	55	SUBC	–	Not used
16	DMUTE	–	Connected to GND	56	SBCK	–	Not used
17	STATUS	O	Status signal (CRC,CUE,CLVS,TTSTOP,ECLV,SQOK)	57	VSS	–	Connected to GND(for X'tal oscillation circuit)
18	RST	I	Reset signal input (L:Reset)	58	XI	I	Input of 16.9344MHz X'tal oscillation circuit
19	SMCK	–	Not used	59	X2	O	Output of X'tal oscillation circuit
20	PMCK	–	Not used	60	VDD	–	Power supply(for X'tal cscillation circuit)
21	TRV	O	Traverse enforced output	61	BYTCK	–	Not used
22	TVD	O	Traverse drive output	62	CLDCK	–	Not used
23	PC	–	Not used	63	FLAG	–	Not used
24	ECM	O	Spindle motor drive signal (Enforced mode output) 3-State	64	IPPLAG	–	Not used
25	ECS	O	Spindle motor drive signal (Servo error signal output)	65	FLAG	–	Not used
26	KICK	O	Kick pulse output	66	CLVS	–	Not used
27	TRD	O	Tracking drive output	67	CRC	–	Not used
28	FOD	O	Focus drive output	68	DEMPH		Not used
29	VREF	I	Reference voltage input pin for D/A output block (TVD,FOD,FBA,TBAL)	69	RESY	–	Not used
30	FBAL	O	Focus Balance adjust signal output	70	IOSEL	–	pull up
31	TBAL	O	Tracking Balance adjust signal output	71	TEST	–	pull up
32	FE	I	Focus error signal input(Analog input)	72	AVDD1	–	Power supply(Digital)
33	TE	I	Tracking error signal input(Analog input)	73	OUT L	O	Lch audio output
34	RF ENV	I	RF envelope signal input(Analog input)	74	AVSS1	–	Connected to GND
35	VDET	I	Vibration detect signal input(H:detect)	75	OUT R	O	Rch audio output
36	OFT	I	Off track signal input(H:off track)	76	RSEL	–	pull up
37	TRCRS	I	Track cross signal input	77	CSEL	–	Connected to GND
38	RFDET	I	RF detect signal input(L:detect)	78	PSEL	–	Connected to GND
39	BDO	I	BDO input pin(L:detect)	79	MSEL	–	Connected to GND
40	LDON	O	Laser ON signal output(H:on)	80	SSEL	–	Pull up

■ TA2104AN(IC1) : Radio Tuner

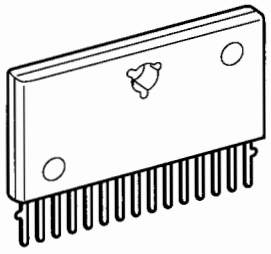


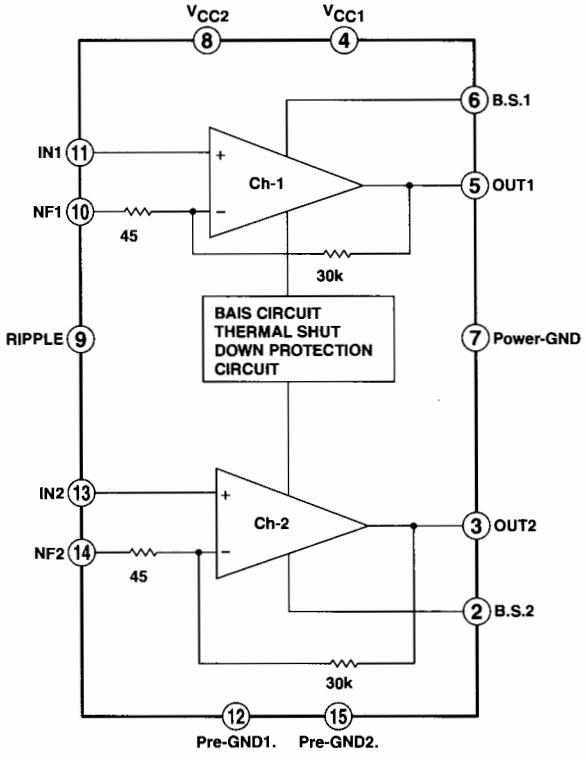


■ BA3126N(IC31) : R/P Switch

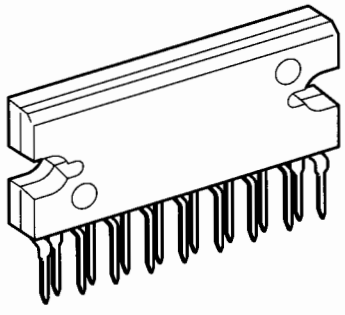


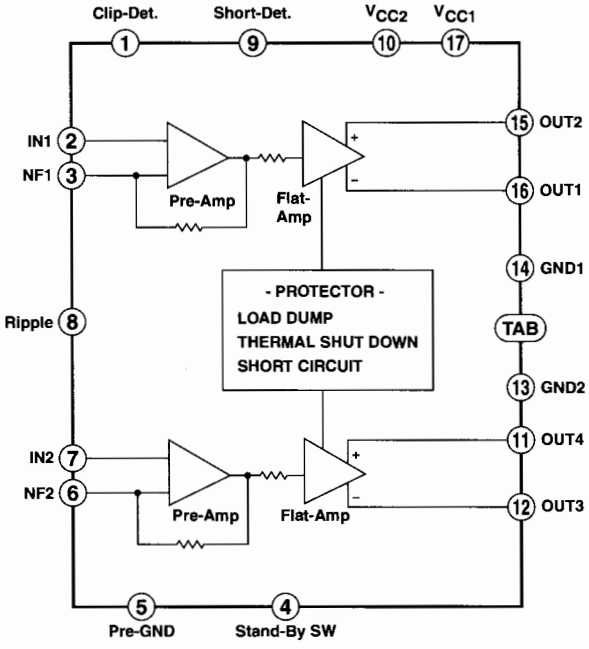
■ TA8223K(IC631) : power amplifier





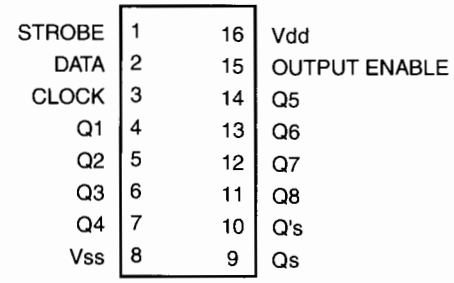
■ TA8223H(IC641) : power amplifier



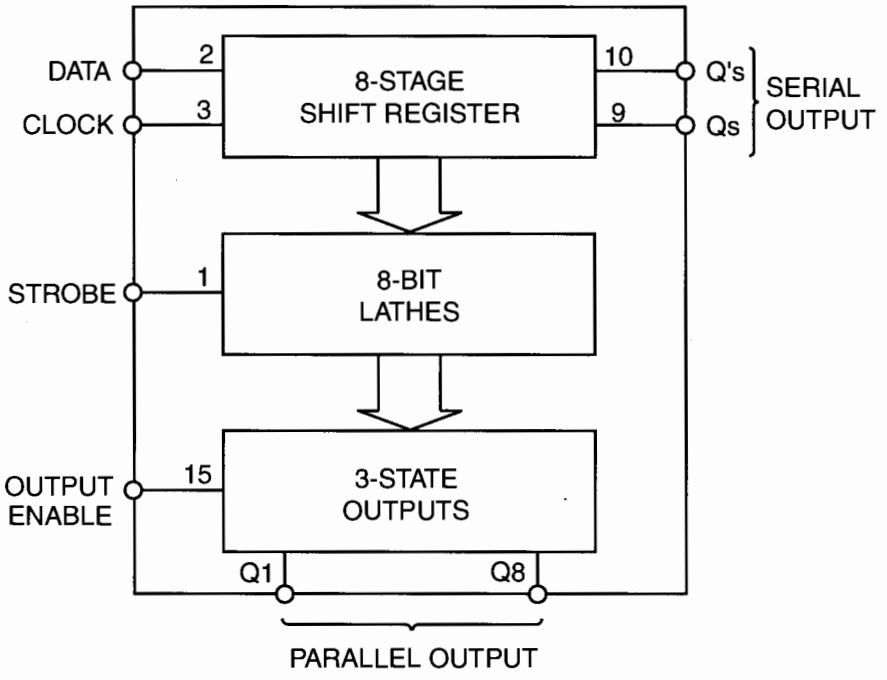


■ BU4094BCF-X(IC33):Serial to parallel port extension

1.Pin layout

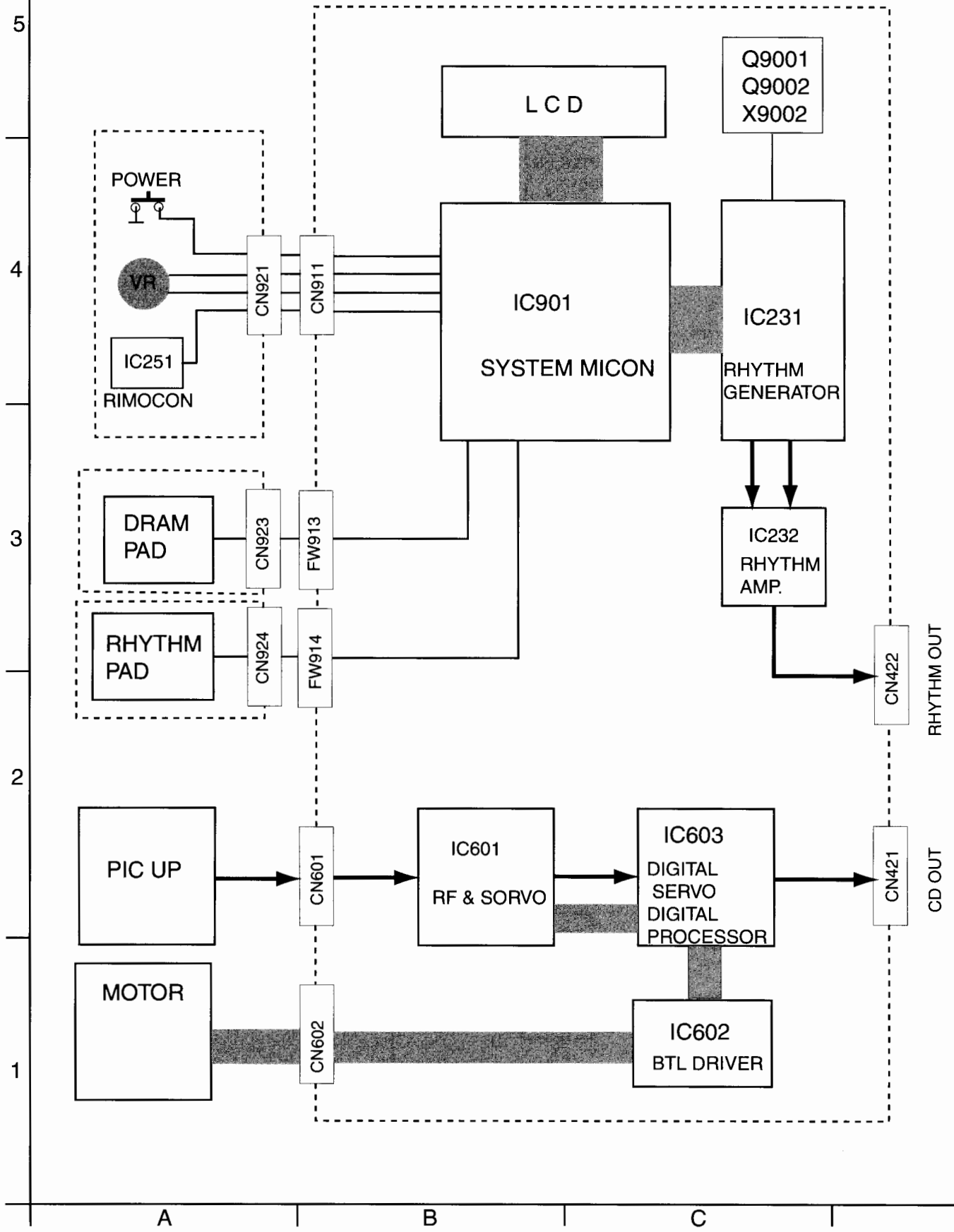


2.Block diagram

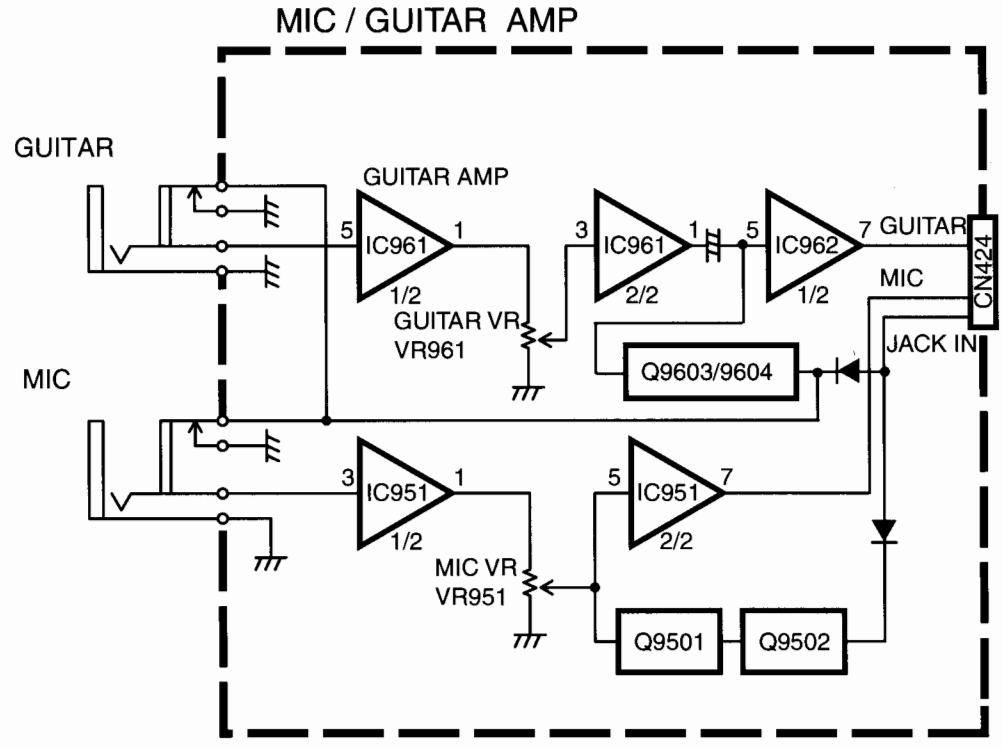


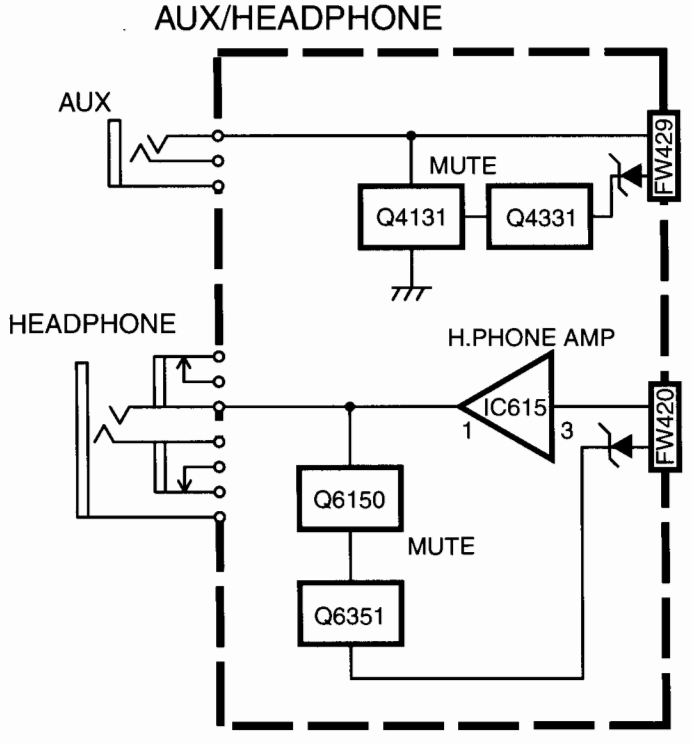
Block diagrams

■ System control(Micon)section

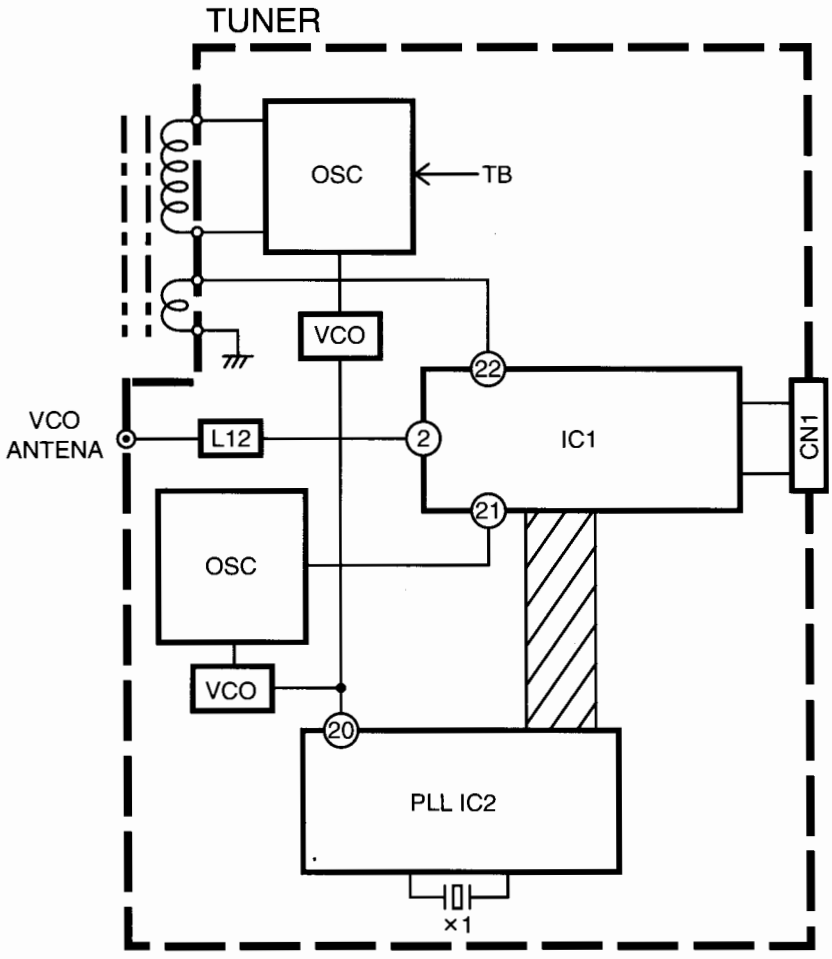


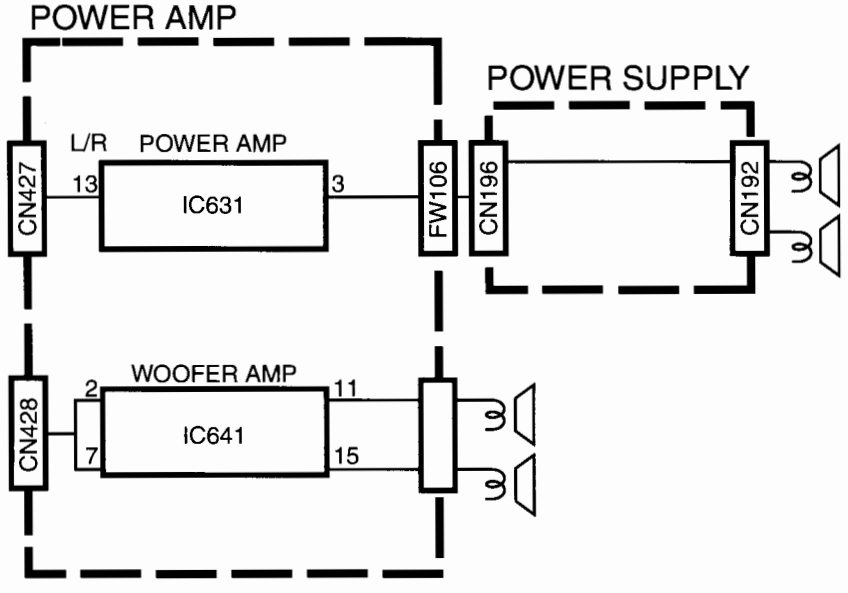
■ Mic/Guitar and AUX/Headphone section



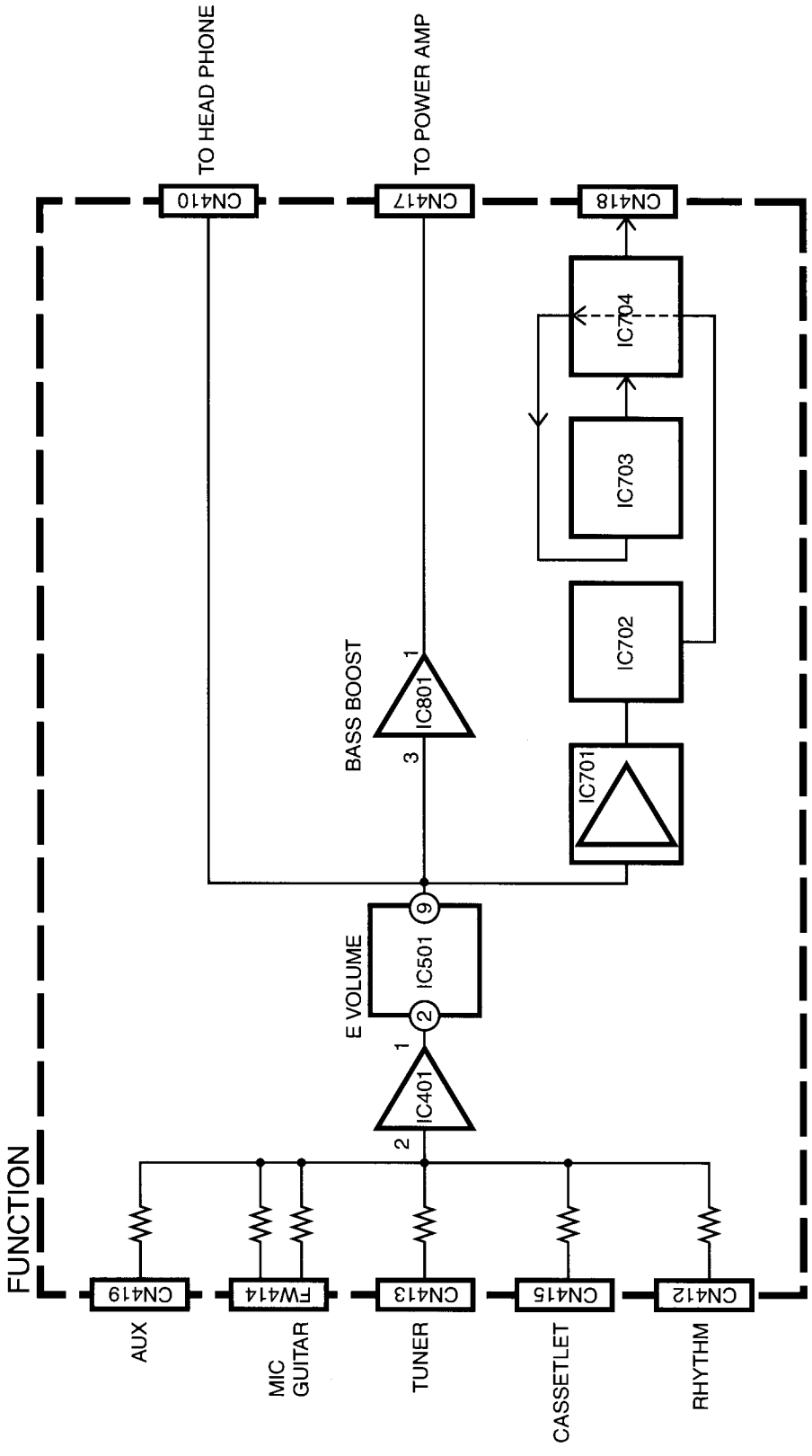


■Tuner / Power section



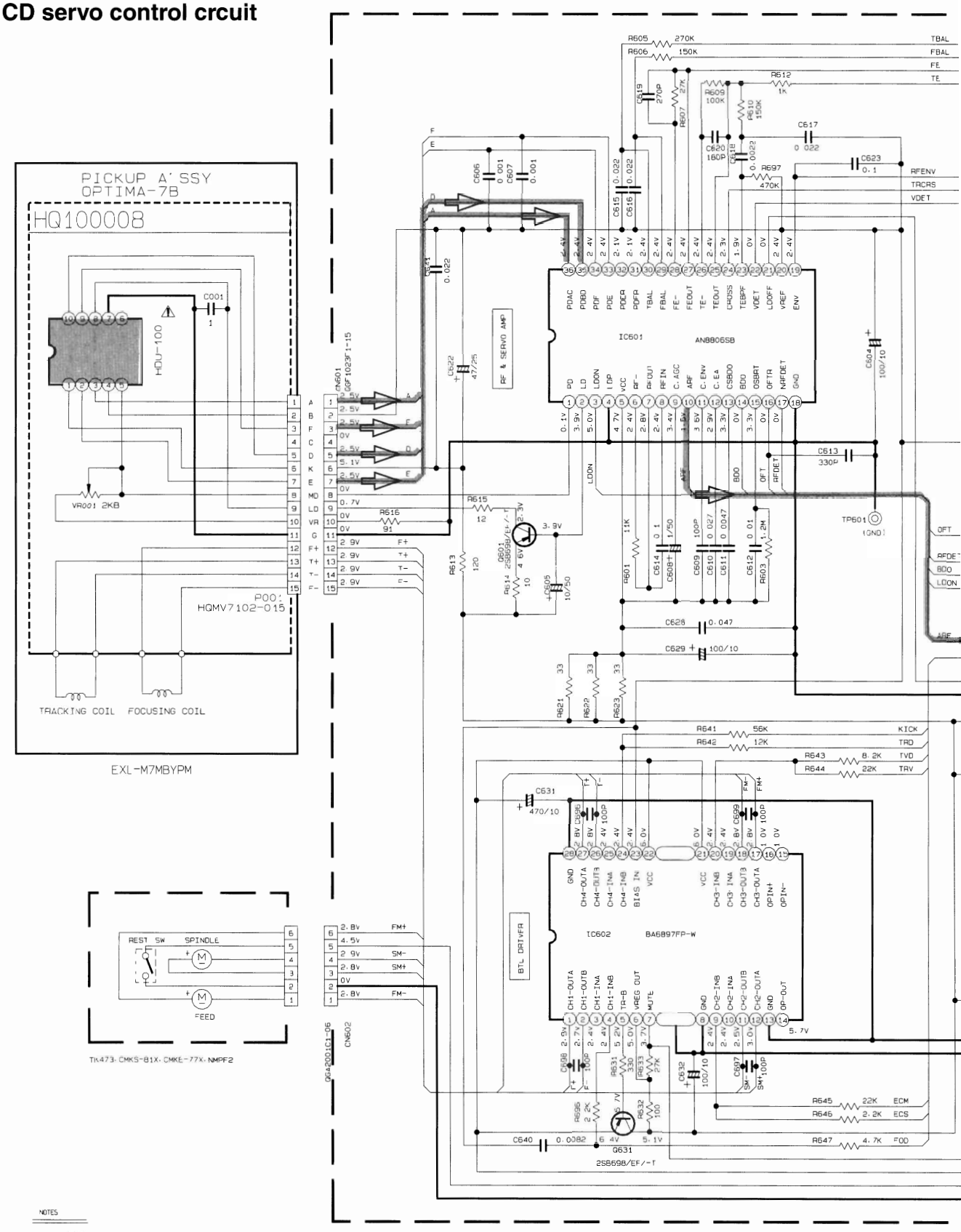


■ Function section



Standard schematic diagrams

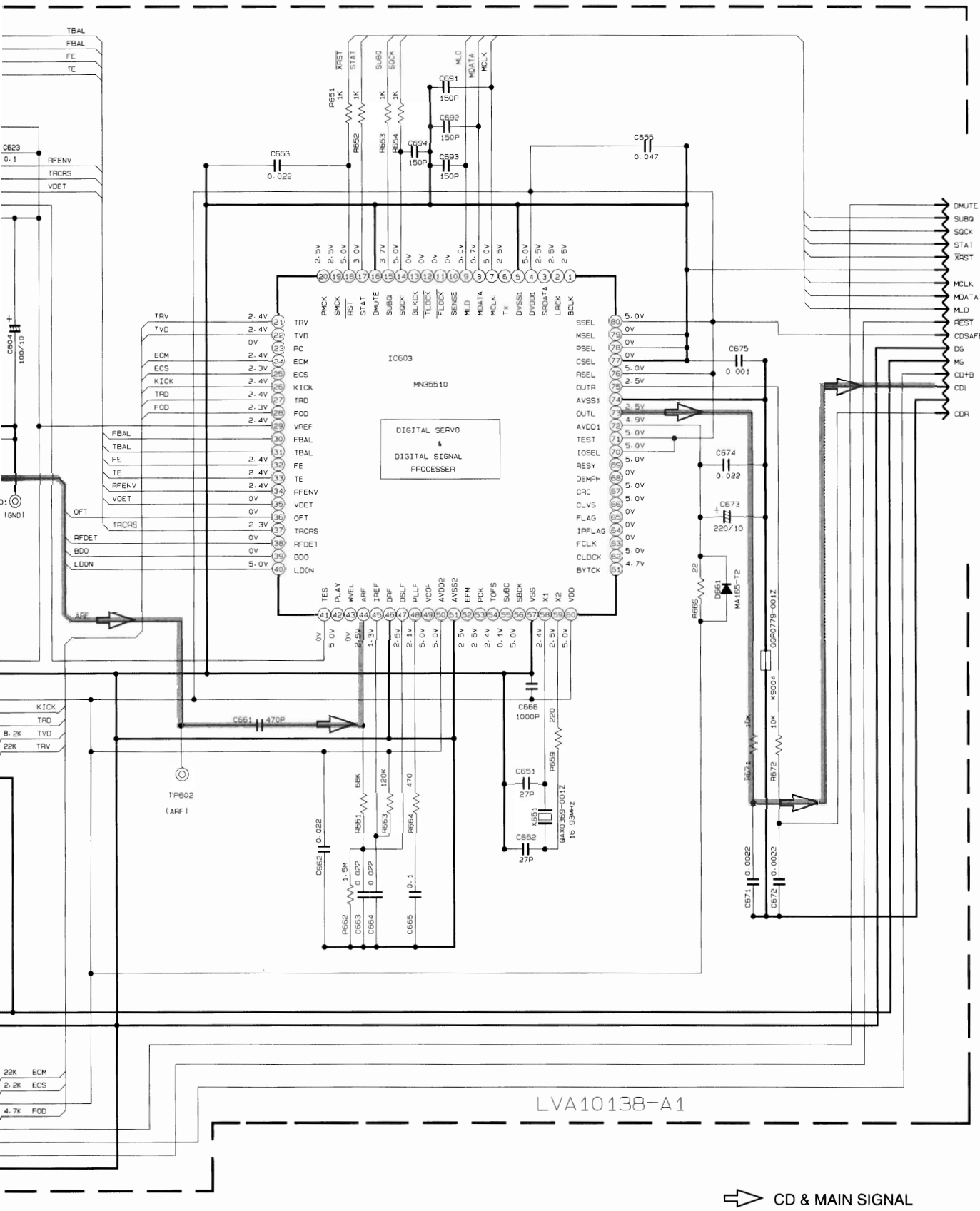
■ CD servo control crcuit



NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
2. UNLESS OTHERWISE SPECIFIED RESISTORS ARE 1/4W ±5% CHIP RESISTOR
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V)

CD-OPTIMA7



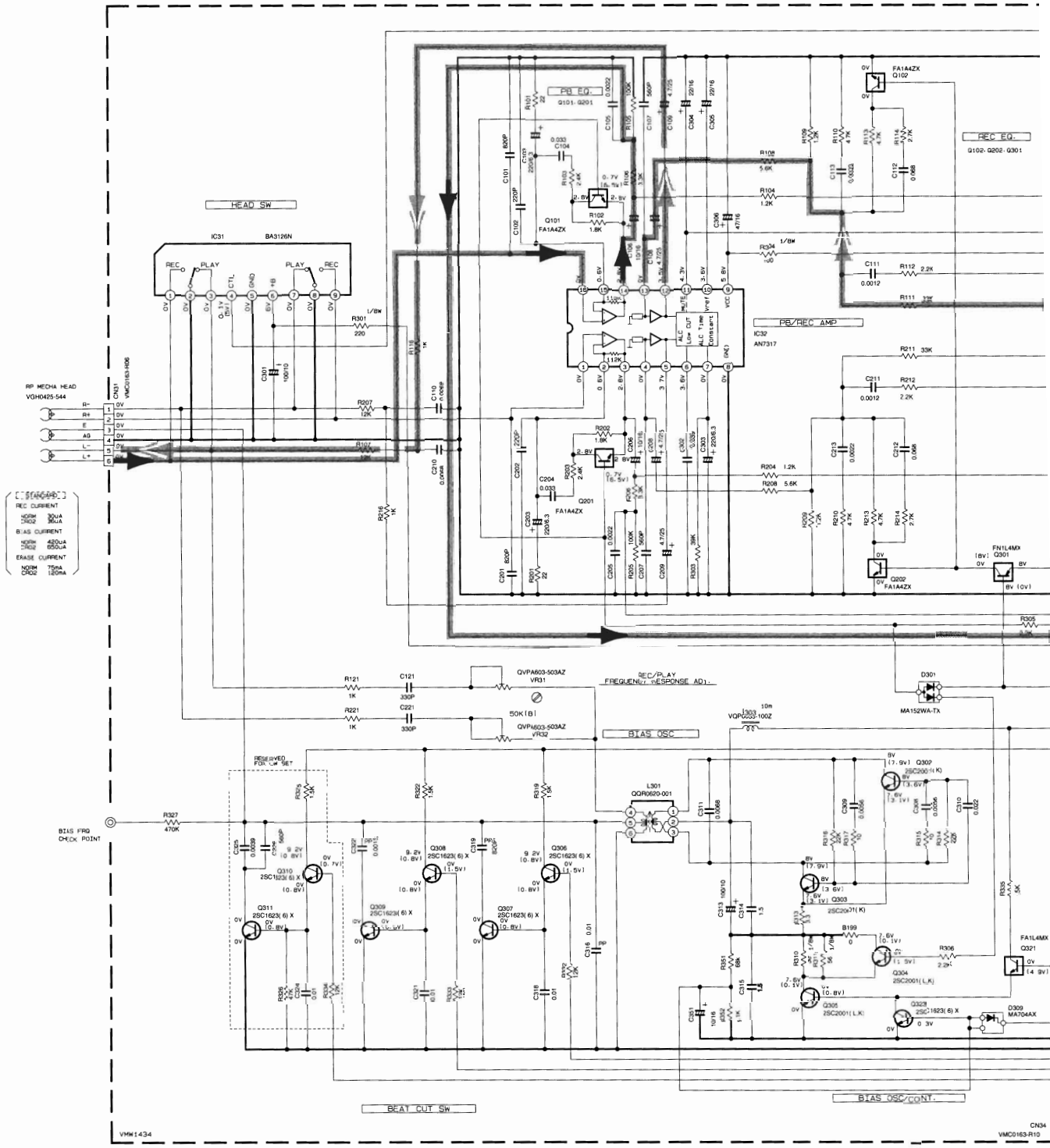
To G-2 on page 3-10

CD & MAIN SIGNAL

CD-OPTIMA7

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

■ Cassette amplifire section

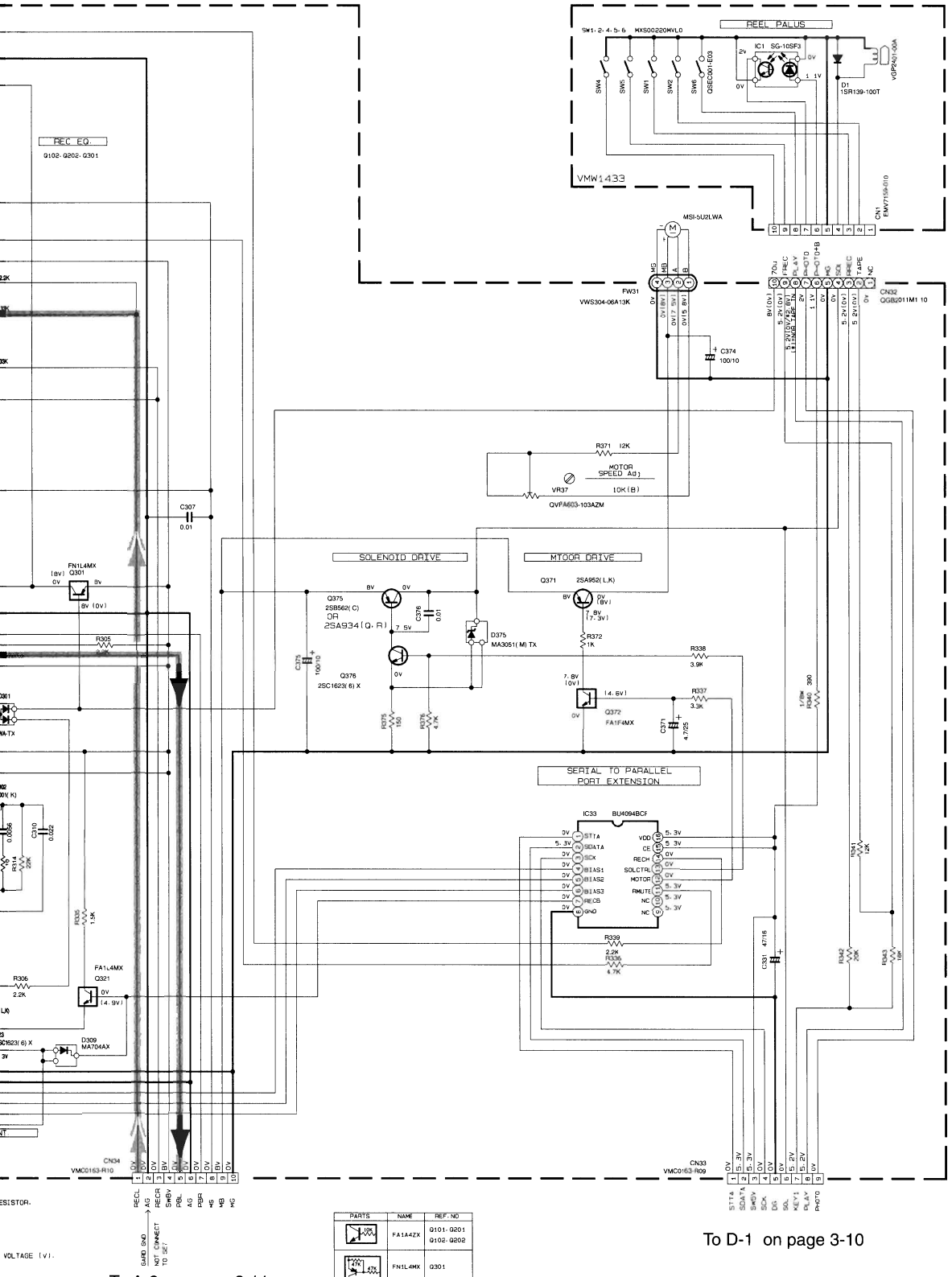


NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL. CONDITION MECHA STOP MODE

2. UNLESS OTHERWISE SPECIFIED . RESISTORS ARE 1/10W ±5% METAL GLAZE RESISTOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
ALL CAPACITANCE VALUES ARE IN MF(P=pF).
ALL INDUCTANCE VALUES ARE IN MH(M=mH).
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (#F)/RATED VOLTAGE (V).
POLYPROPYLENE CAPACITOR

To A



PARTS	NAME	REF. NO
	FA1A4ZX	Q101, Q201 Q102, Q202
	FN1L4MX	Q301
	FA1L4MX	Q321
	FA1F4MX	Q371

■ Tuner circuit (Only B/E/EV/EN)

	PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL 88MHz	0	0.8	0	3.6	4	3.5	4	0	0.6	3.2	1.2	1.2	3.4	3.3	0.7	1.4	1.2	0	3.9	4	4.1	4	4	4
	FM 88MHz 60dB STEREO	0	0.8	0.2	3.8	4.1	3.9	4.1	0	0	3.3	1.2	1.2	3.3	3.4	0.7	1.1	1.4	0.7	4	4.1	4.1	4.1	4.1	4.1
	AM 531KHz NO SIGNAL	0	0	1	4.2	4.3	3.6	4.3	0	0.1	3.7	1.2	1.2	0	0	0.7	1.1	0.9	0.7	4.1	4.2	4.3	4.3	4.3	4.3

	PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
IC2	FM NO SIGNAL	2.5	0	0	5.1	5.1	5.1	3.5	3.2	3.9	2.5	4.1	0	1.4	1.7	0	2.4	0	0.9	0.9	1.5	0	2

	TR NO	Q1			Q2			Q3			Q4			Q5			Q6			Q14		
	PIN NO	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
	AM 1440KHz NO SIGNAL	3.3	4.2	4.1	0	0	0.1	0	0	0.1	4.1	4.1	3.6	0	0	0.8	0	0	0.7	4.1	4.1	0
	AM 144KHz NO SIGNAL	3.4	4.3	4.2	0	0	0.8	0	0	0.7	4.3	4.3	4.3	0	0	0.1	0	0	0.1	4.3	4.3	4.3

LVA10139-02B

QNZ0104-001 TP1 TO ROD ANT

QNZ0104-001 TP2 FM GND

L12 QOR0756-001

C83 56P

C81 15P

C85 15P

L2 QQR0769-001 (FM RF)

C6 0.01

C52 0.001

D2 SVC203SPA-JV-T

D1 SVC203SPA-JV-T

R7 100K

R1 100K

R2 47K

C3 5.6P

R3 22

C7 0.01

C9 12P

L1 QQR0772-001 (FM OSC)

C16 0.01

C13 0.022

R9 4.7K

R4 47K

C77 0.01

R54 2.2K

D6

D5

QQR0771-001

Q2 2SC2668/O/-T

R34 2.2K

Q4 2SA1175/HFE/-T

R14 10K

TC2

Q5

R15 2.2K

2SC2668/O/-T

R67 180K

TC3

C24 62P

R56 3.3K

C71 10/16

R57 1K

C69 0.0022

R55 2.2K

C70 2.2/50

R52 10K

C60 0.001

C61 100/10

C65 0.001

R44 2.2K

C37 0.001

C64 12P (CH)

C62 12P (CH)

C63 0.001

X1 QAX0402-001

L7 QQL231K-221Y

L10 QQL231K-4R7Y

L7 QQL231K-221

L10 QQL231K-4R7

IC2 LC72136N

22	21	20	19	18	17	16	15	14	13	12
XT	GND	LPF OUT	LPF IN	PD	Vcc	FM IN	AM IN	LW	IF CONT	IF IN

PLL

1	2	3	4	5	6	7	8	9	10	11
XT	NC	CE	DI	CLOCK	DO	FM ST VCO STOP	AM/FM	MW	LW	SW

R61 1K

R59 1K

R60 1K

R42 47K

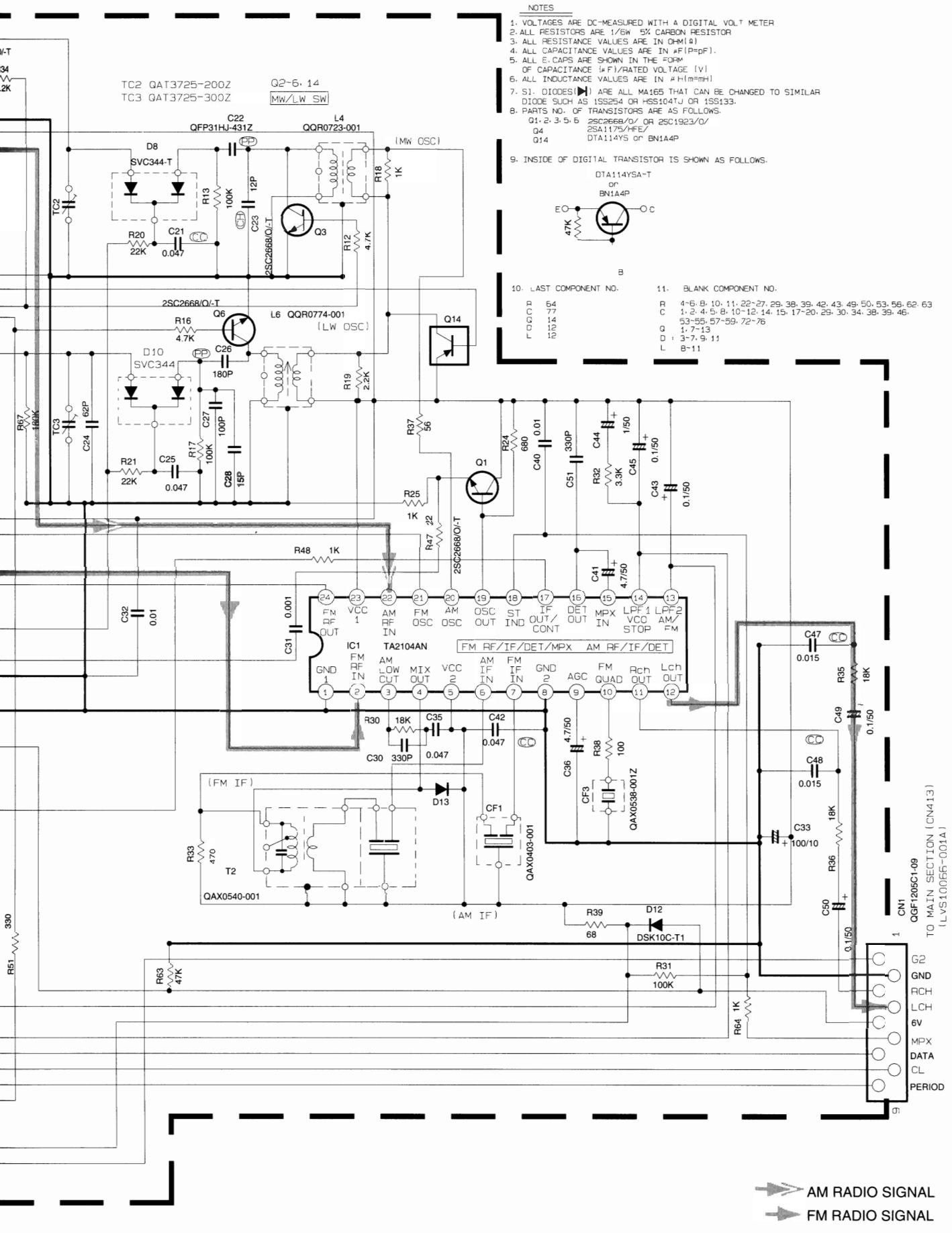
R41 2.2K

R40 2.2K

R45 1K

R51 330

A B C D



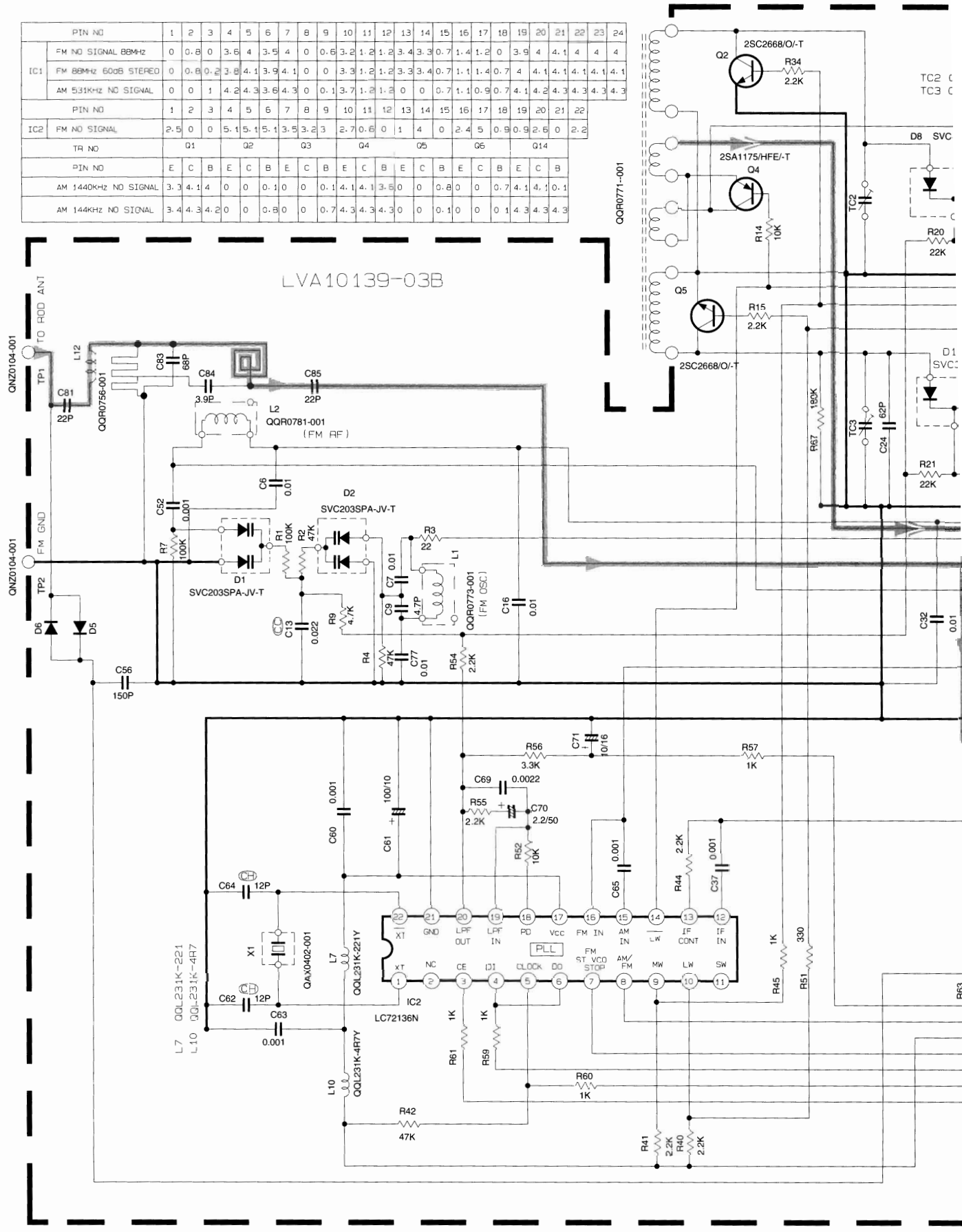
To A-3 on page 3-11

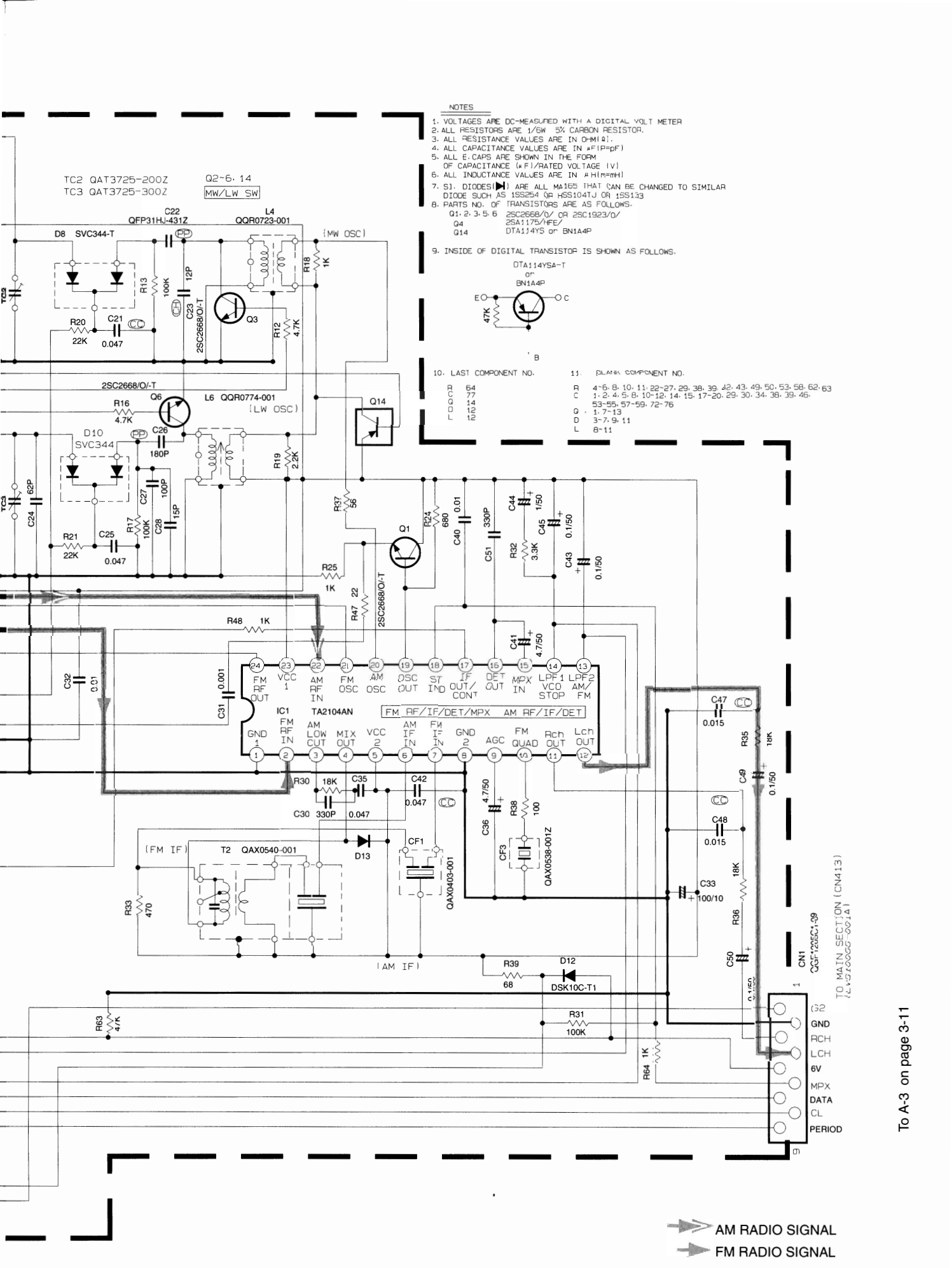
■ Tuner circuit (Only EE)

	PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL 88MHz	0	0.8	0	3.6	4	3.5	4	0	0.6	3.2	1.2	1.2	3.4	3.3	0.7	1.4	1.2	0	3.9	4	4.1	4	4	4
	FM 88MHz 60dB STEREO	0	0.8	0.2	3.8	4.1	3.9	4.1	0	0	3.3	1.2	1.2	3.3	3.4	0.7	1.1	1.4	0.7	4	4.1	4.1	4.1	4.1	4.1
	AM 531KHz NO SIGNAL	0	0	1	4.2	4.3	3.6	4.3	0	0.1	3.7	1.2	1.3	0	0	0.7	1.1	0.9	0.7	4.1	4.2	4.3	4.3	4.3	4.3

	PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
IC2	FM NO SIGNAL	2.5	0	0	5.1	5.1	5.1	3.5	3.2	3	2.7	0.6	0	1	4	0	2.4	5	0.9	0.9	2.6	0	2.2

TR NO	Q1			Q2			Q3			Q4			Q5			Q6			Q14		
PIN NO	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
AM 1440KHz NO SIGNAL	3.3	4.1	4	0	0	0.1	0	0	0.1	4.1	4.1	3.6	0	0	0.8	0	0	0.7	4.1	4.1	0.1
AM 144KHz NO SIGNAL	3.4	4.3	4.2	0	0	0.8	0	0	0.7	4.3	4.3	4.3	0	0	0.1	0	0	0.1	4.3	4.3	4.3





To A-3 on page 3-11

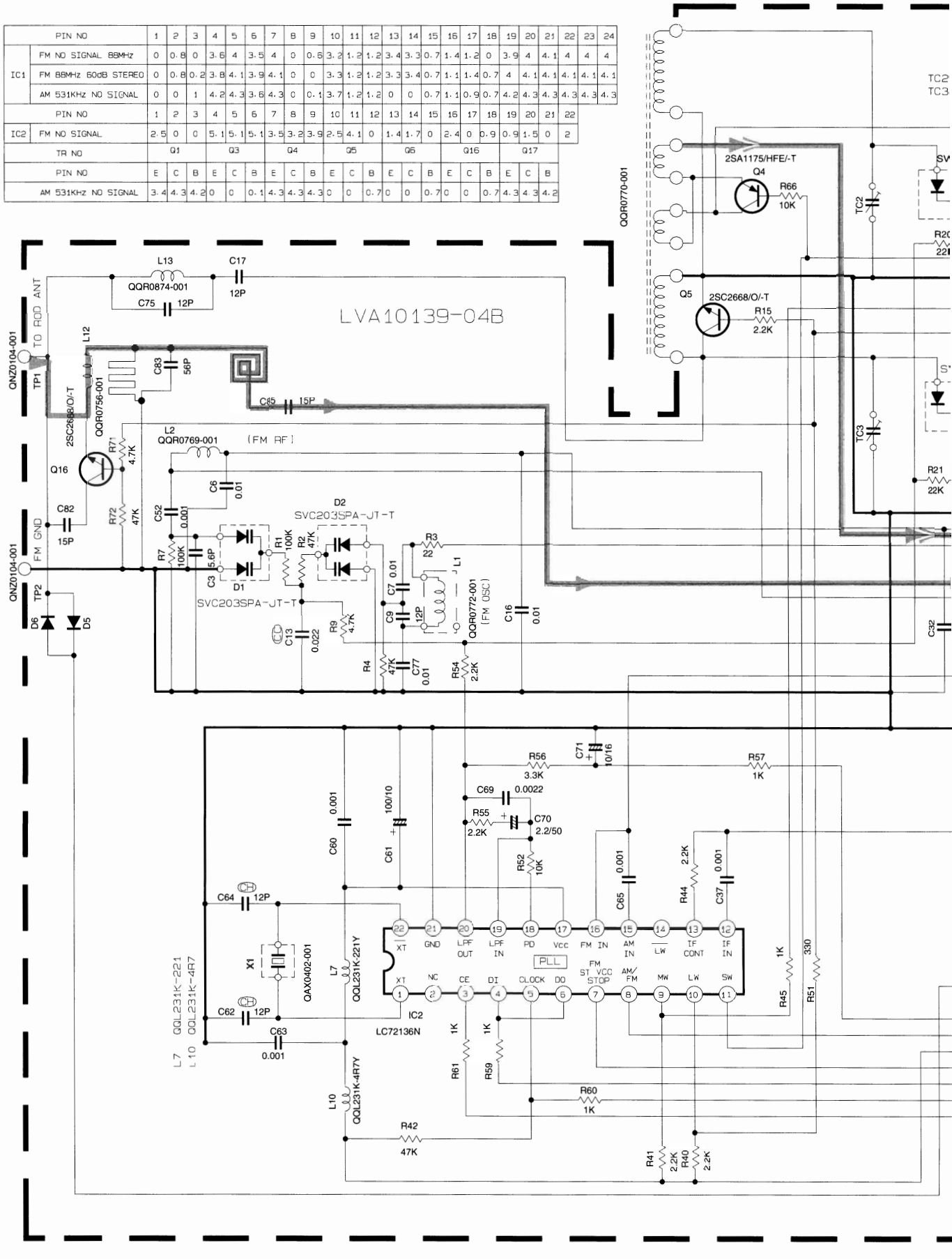
D E F G H

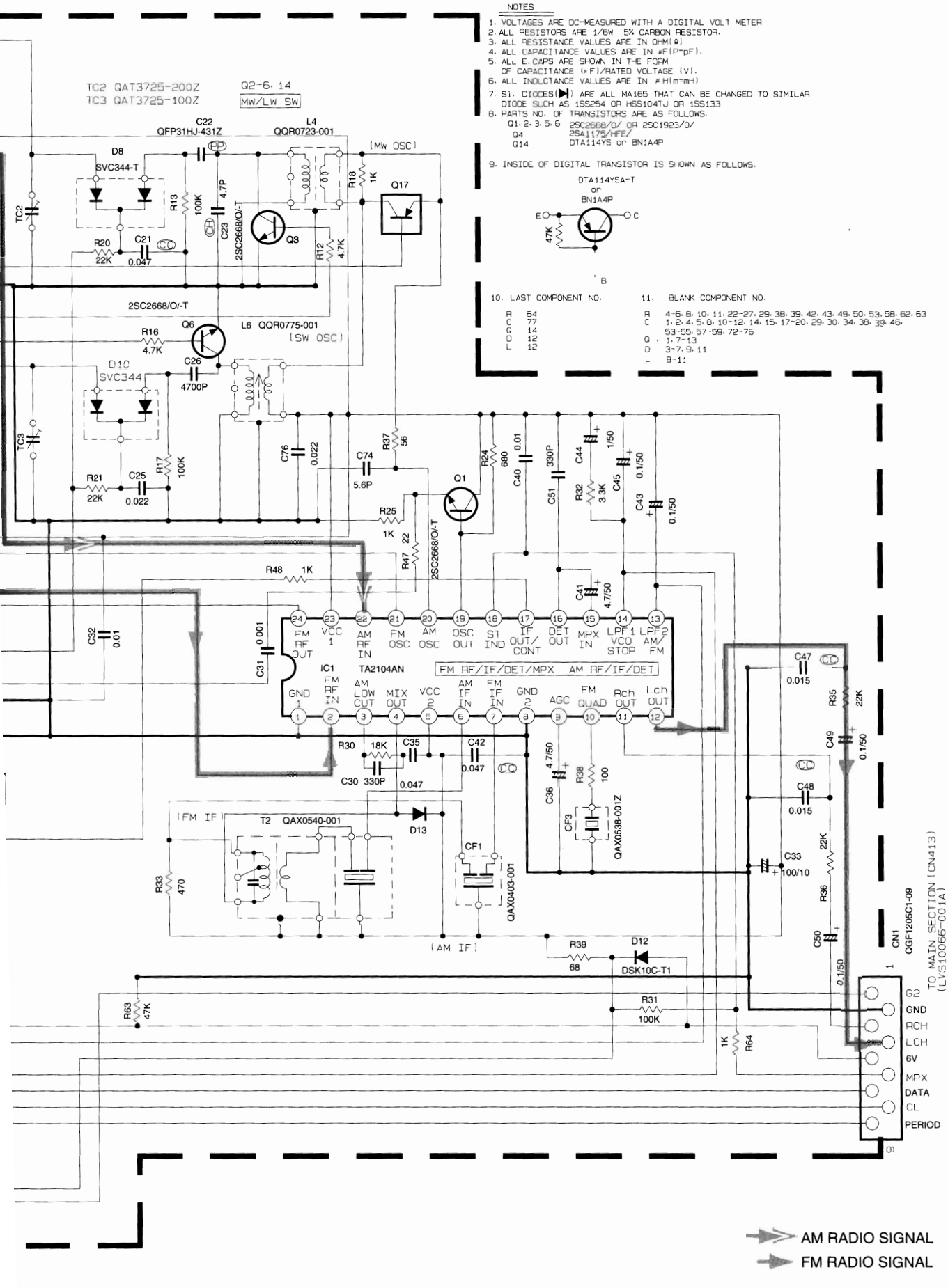
■ Tuner circuit (Only U/US)

	PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
IC1	FM NO SIGNAL 88MHz	0	0.8	0	3.6	4	3.5	4	0	0.6	3.2	1.2	1.2	3.4	3.3	0.7	1.4	1.2	0	3.9	4	4.1	4	4	4
	FM 88MHz 60dB STEREO	0	0.8	0.2	3.8	4.1	3.9	4.1	0	0	3.3	1.2	1.2	3.3	3.4	0.7	1.1	1.4	0.7	4	4.1	4.1	4.1	4.1	4.1
	AM 531KHz NO SIGNAL	0	0	1	4.2	4.3	3.6	4.3	0	0.1	3.7	1.2	1.2	0	0	0.7	1.1	0.9	0.7	4.2	4.3	4.3	4.3	4.3	4.3

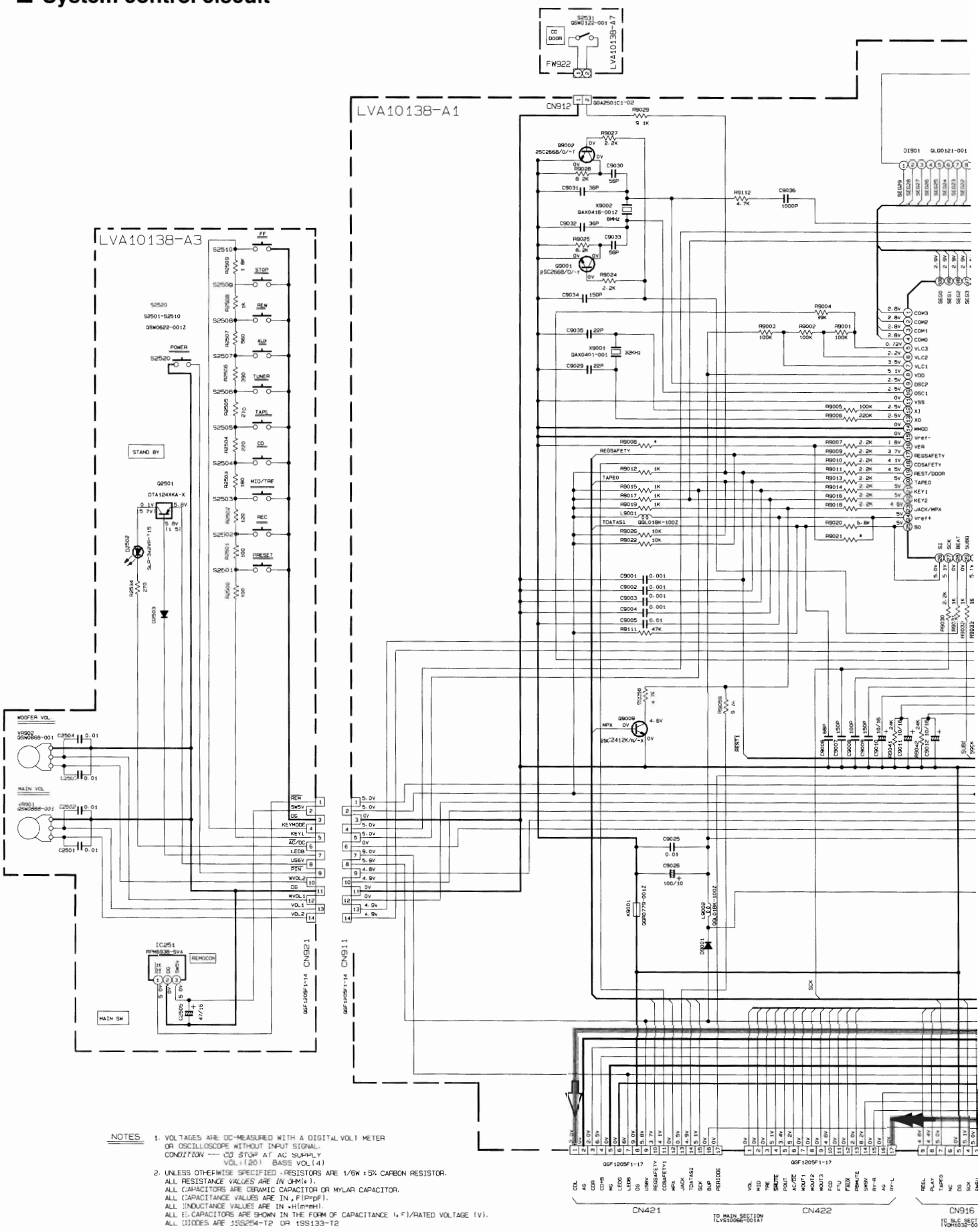
	PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
IC2	FM NO SIGNAL	2.5	0	0	5.1	5.1	5.1	3.5	3.2	3.9	2.5	4.1	0	1.4	1.7	0	2.4	0	0.9	0.9	1.5	0	2

	TR NO	Q1			Q3			Q4			Q5			Q6			Q16			Q17		
	PIN NO	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
	AM 531KHz NO SIGNAL	3.4	4.3	4.2	0	0	0.1	4.3	4.3	4.3	0	0	0.7	0	0	0.7	0	0	0.7	4.3	4.3	4.2




NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER
2. ALL RESISTORS ARE 1/6W 5% CARBON RESISTOR.
3. ALL RESISTANCE VALUES ARE IN OHM(Ω)
4. ALL CAPACITANCE VALUES ARE IN μF(P=pF).
5. ALL E.CAPS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
6. ALL INDUCTANCE VALUES ARE IN μH(m=mH)
7. SI. DIOCES(▶|) ARE ALL MA165 THAT CAN BE CHANGED TO SIMILAR DIODE SUCH AS 1SS254 OR HSS104TJ OR 1SS133
8. PARTS NO. OF TRANSISTORS ARE AS FOLLOWS.
Q1, 2, 3, 5, 6 2SC2668/O/ OR 2SC1923/O/
Q4 2SA1175/HFE/
Q14 DTA114YS or BN1A4P
9. INSIDE OF DIGITAL TRANSISTOR IS SHOWN AS FOLLOWS.
DTA114YSA-T or BN1A4P
47K
E
C
B
10. LAST COMPONENT NO.
R 64
C 77
Q 14
D 12
L 12
11. BLANK COMPONENT NO.
R 4~6, 8, 10, 11, 22~27, 29, 38, 39, 42, 43, 49, 50, 53, 58, 62, 63
C 1, 2, 4, 5, 8, 10~12, 14, 15, 17~20, 29, 30, 34, 38, 39, 46, 53~55, 57~59, 72~76
Q 1, 7~13
D 3~7, 9, 11
L 8~11
TC2 QAT3725-200Z
TC3 QAT3725-100Z
Q2~6, 14
MW/LW SW
C22 QFP31HJ-431Z
L4 QQR0723-001
(MW OSC)
D8 SVC344-T
R13 100K
C23 4.7P
2SC2668/O/-T
R18 1K
Q17
R20 22K
C21 0.047
Q3
R12 4.7K
2SC2668/O/-T
Q6
L6 QQR0775-001
(SW OSC)
R16 4.7K
D10 SVC344
C26 4700P
TC3
R21 22K
C25 0.022
R17 100K
C76 0.022
C74 5.6P
R37 56
R24 680
C40 0.01
C51 330P
C44 1/50
R32 3.3K
C45 0.1/50
C43 0.1/50
Q1
R25 1K
R47 22
2SC2668/O/-T
R48 1K
C41 4.7/50
C32 0.01
C31 0.001
IC1 TA2104AN
FM RF/IF/DET/MPX AM RF/IF/DET
24 FM RF OUT
23 VCC 1
22 AM RF IN
21 FM OSC
20 AM OSC
19 OSC OUT
18 ST IND
17 IF OUT/ CONT
16 DET OUT
15 MPX IN
14 LPF 1 VCO STOP
13 LPF 2 AM/ FM
1 GND 1
2 FM RF IN
3 AM LOW CUT
4 MIX OUT
5 VCC 2
6 AM IF IN
7 FM IF IN
8 GND 2
9 AGC
10 FM QUAD
11 Rch OUT
12 Lch OUT
C47 0.015
R35 22K
C49 0.1/50
C48 0.015
C33 100/10
R36 22K
C50 0.1/50
R30 18K
C35 0.047
C42 0.047
C30 330P
0.047
C36 4.7/50
R38 100
CF3
QAX0538-001Z
(FM IF)
T2 QAX0540-001
D13
CF1
QAX0403-001
R33 470
(AM IF)
R39 68
D12 DSK10C-T1
R63 47K
R31 100K
1K R64
CN1 QGF1205C1-09
TO MAIN SECTION (CN413) (LVS10065-001A)
G2
GND
RCH
LCH
6V
MPX
DATA
CL
PERIOD
To A-3 on page 3-11
AM RADIO SIGNAL
FM RADIO SIGNAL

■ System control ciecuit



NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- CD STOP AT AC SUPPLY
   VOL:[20] BASS VOL:[4]
2. UNLESS OTHERWISE SPECIFIED ,RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(s).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN ,F(P=pF).
   ALL INDUCTANCE VALUES ARE IN ,H(m=mH).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (,F)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS254-T2 OR 1SS133-T2

To B-1 on page 3-11

To G-1 on

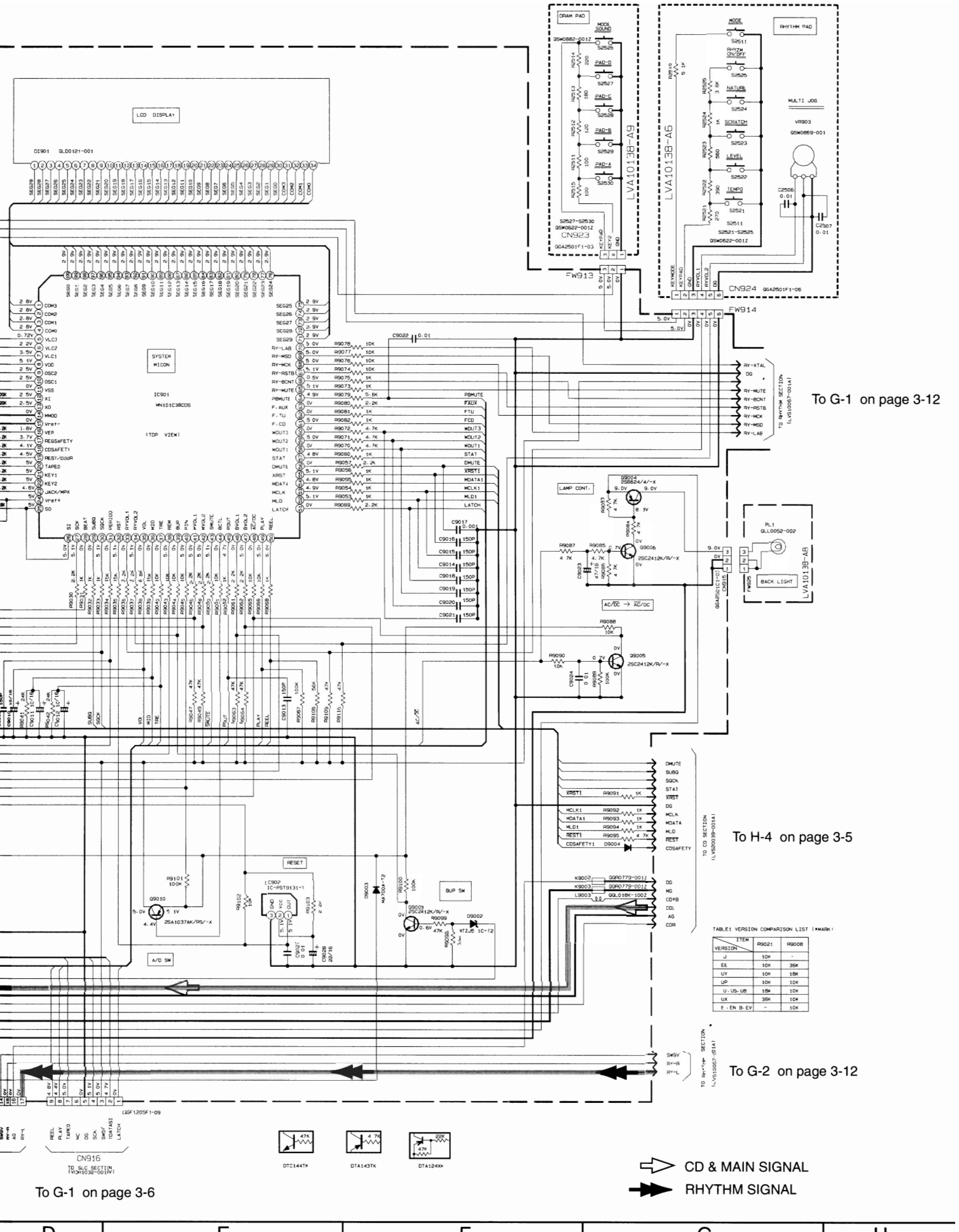
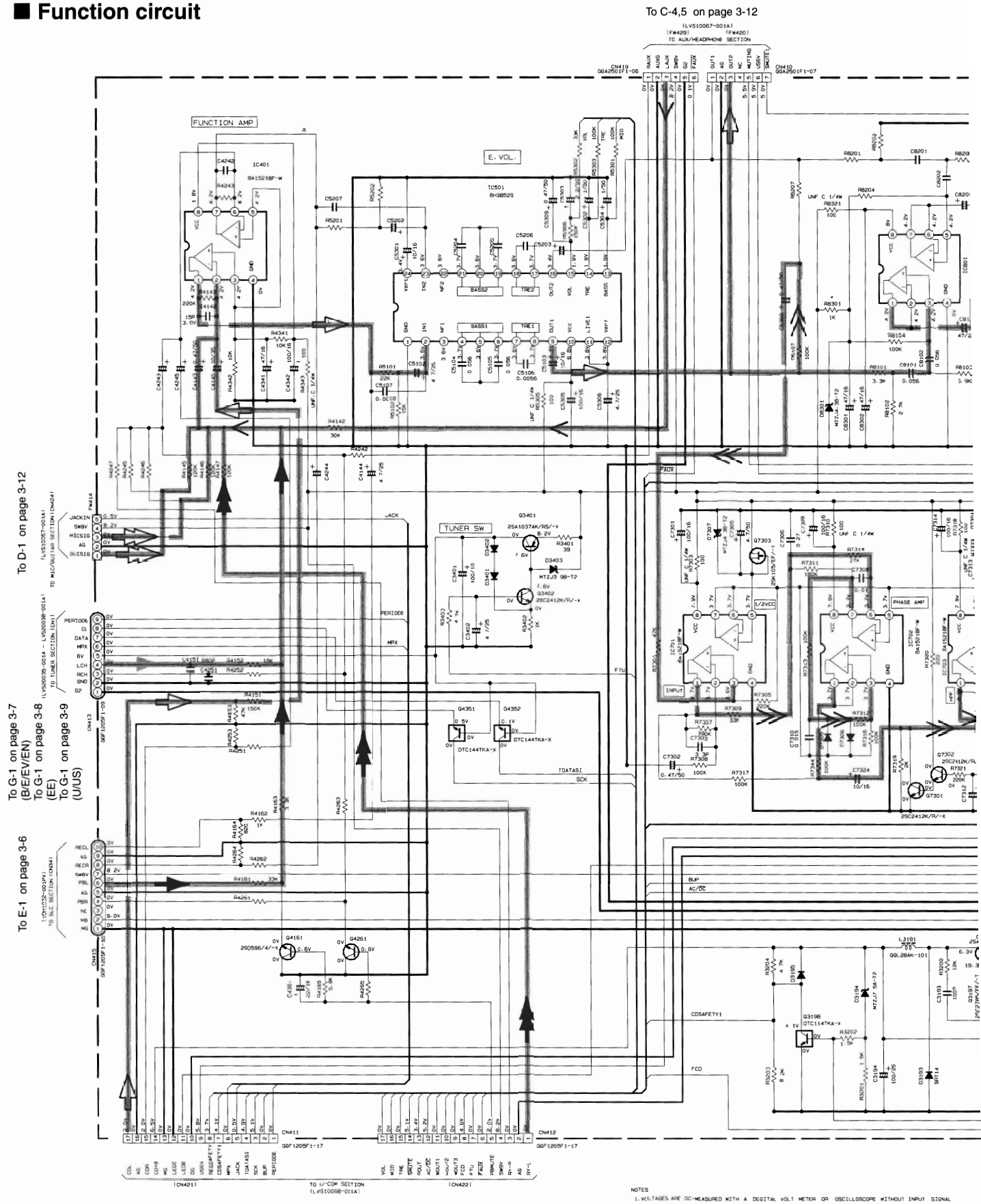
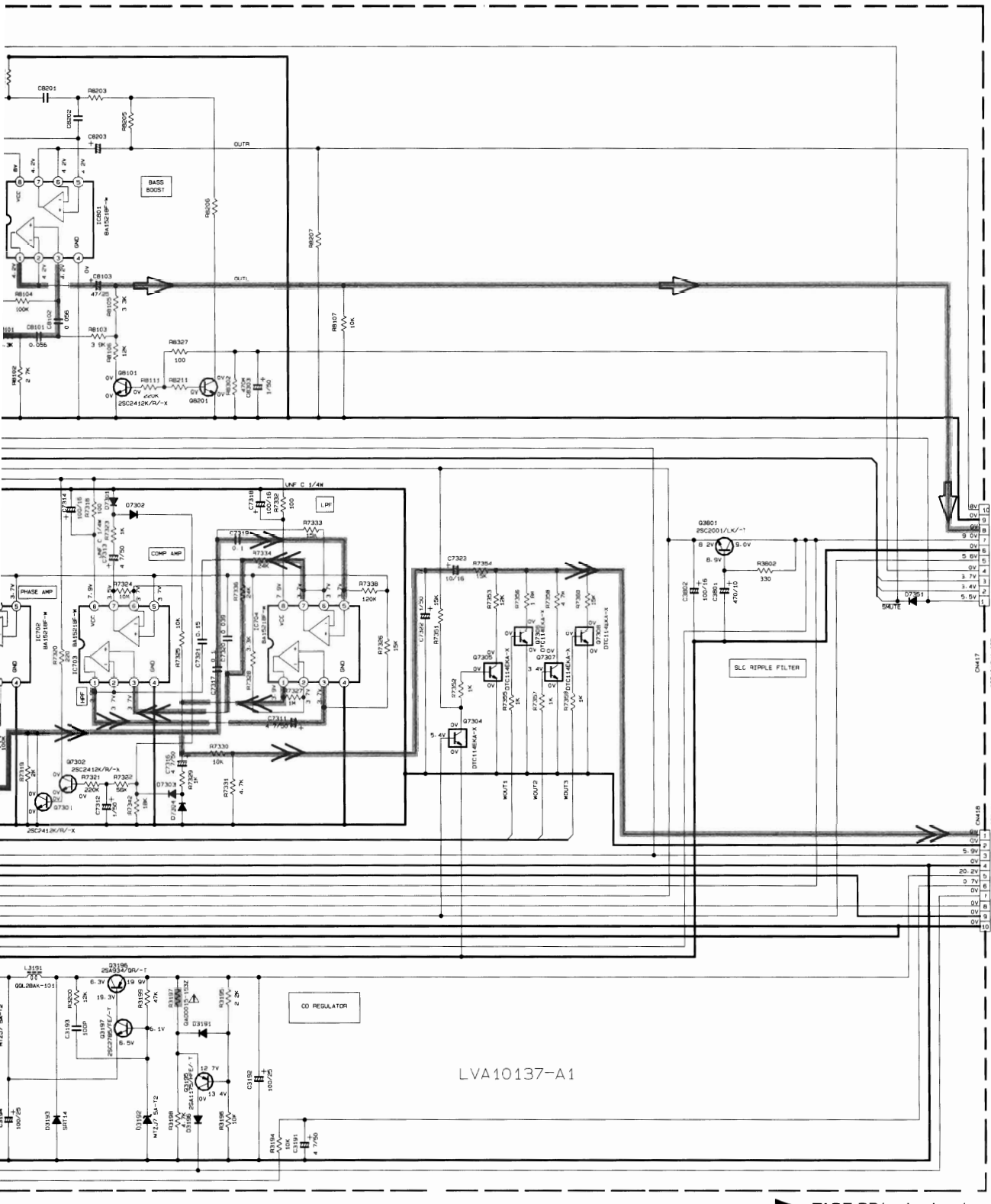


TABLE1 VERSION COMPARISON LIST (*MARK)

ITEM / VERSION	R9021	R9008
J	10K	-
EE	10K	39K
UY	10K	18K
UP	10K	10K
U-US-UB	18K	10K
UX	39K	10K
E-EN B-EV	-	10K

■ Function circuit





MIC & Guitar signal
Rhythm signal
AUX signal
Woofer signal

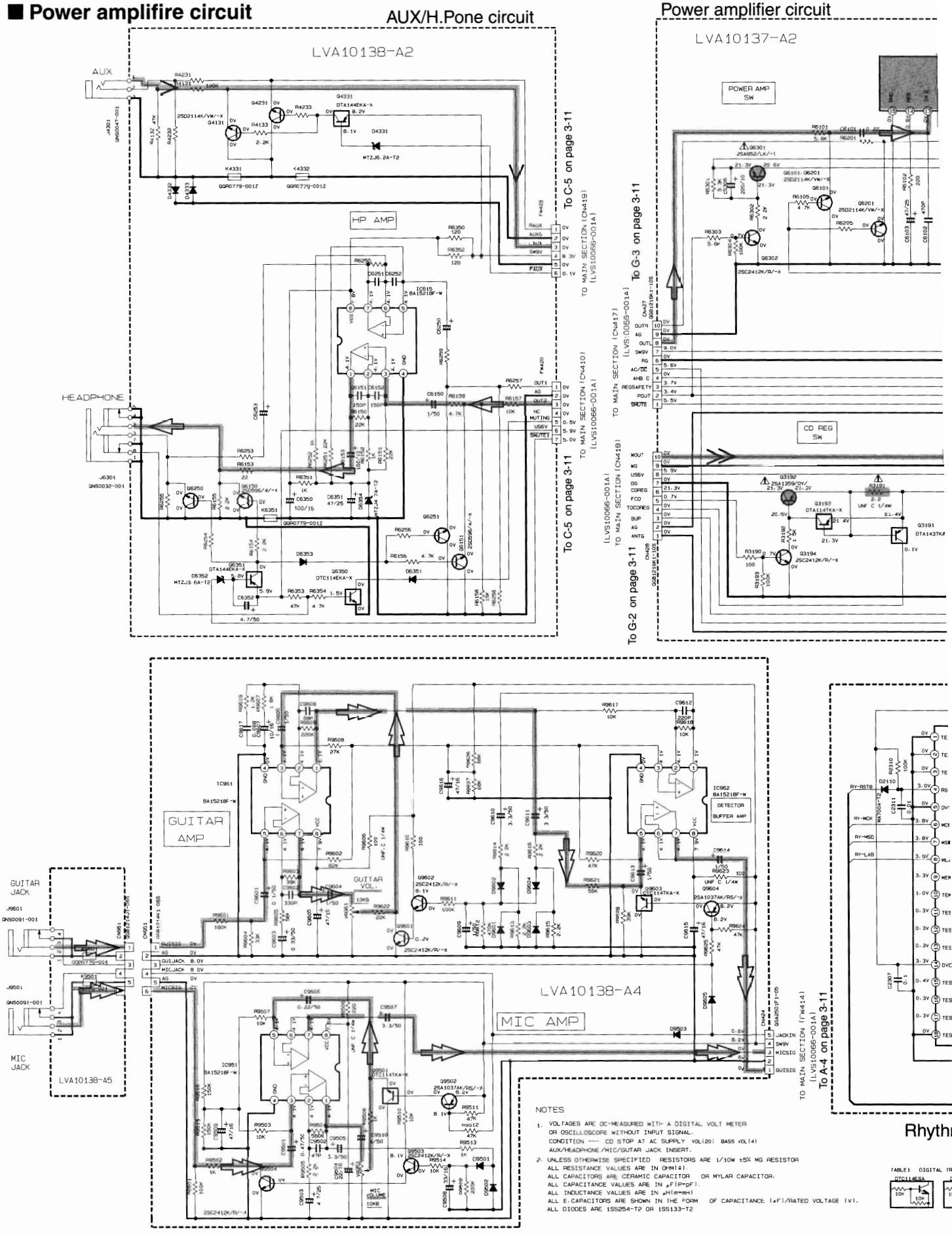
TAPE.PB/main signal
CD & main signal
AM/RADIO main signal
Recording signal

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

TABLE 1

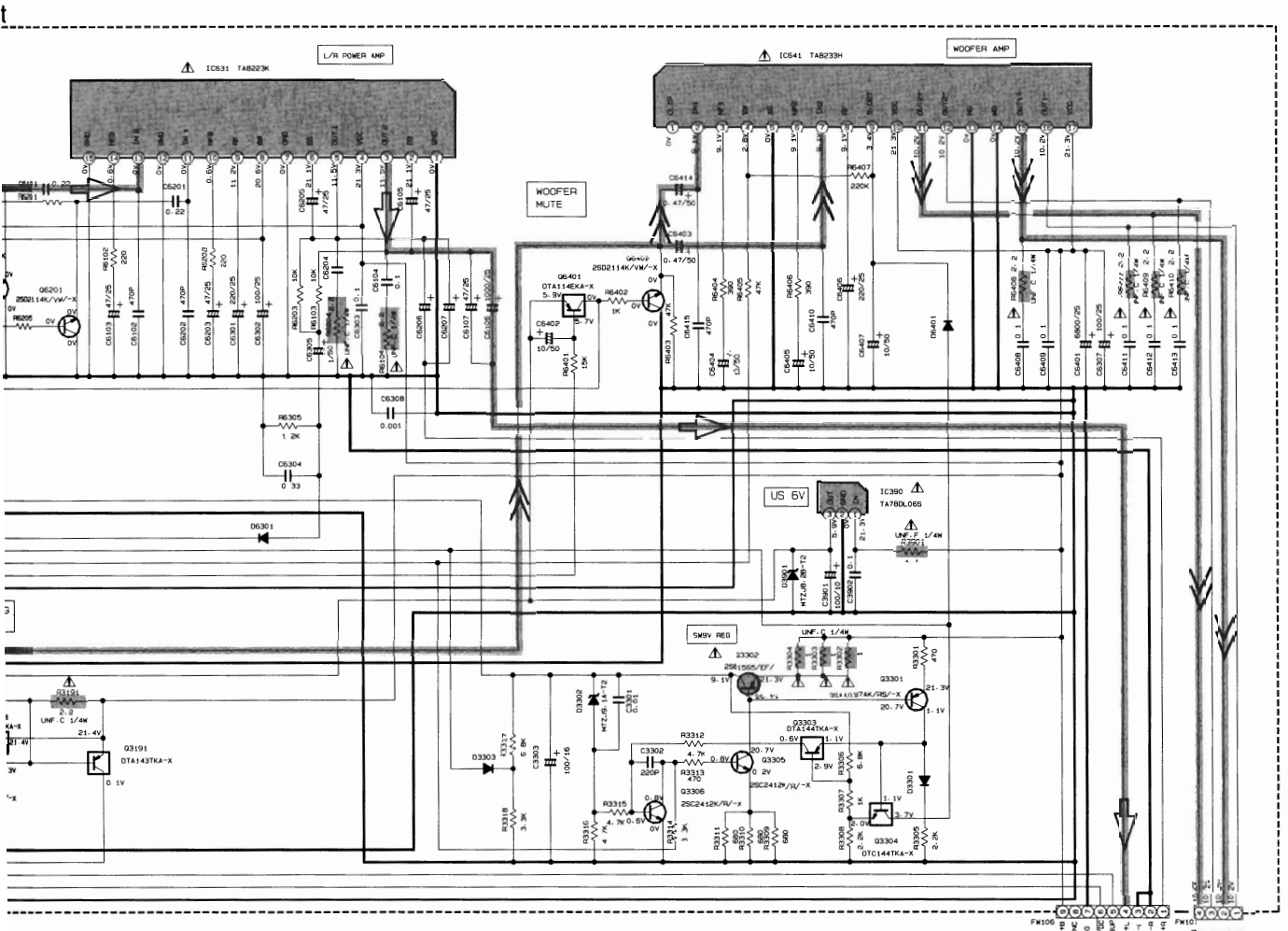
PARTS NAME	DTC114EK	DTA144TK
CONSTRUCTION	10K 10K	47K

■ Power amplifire circuit

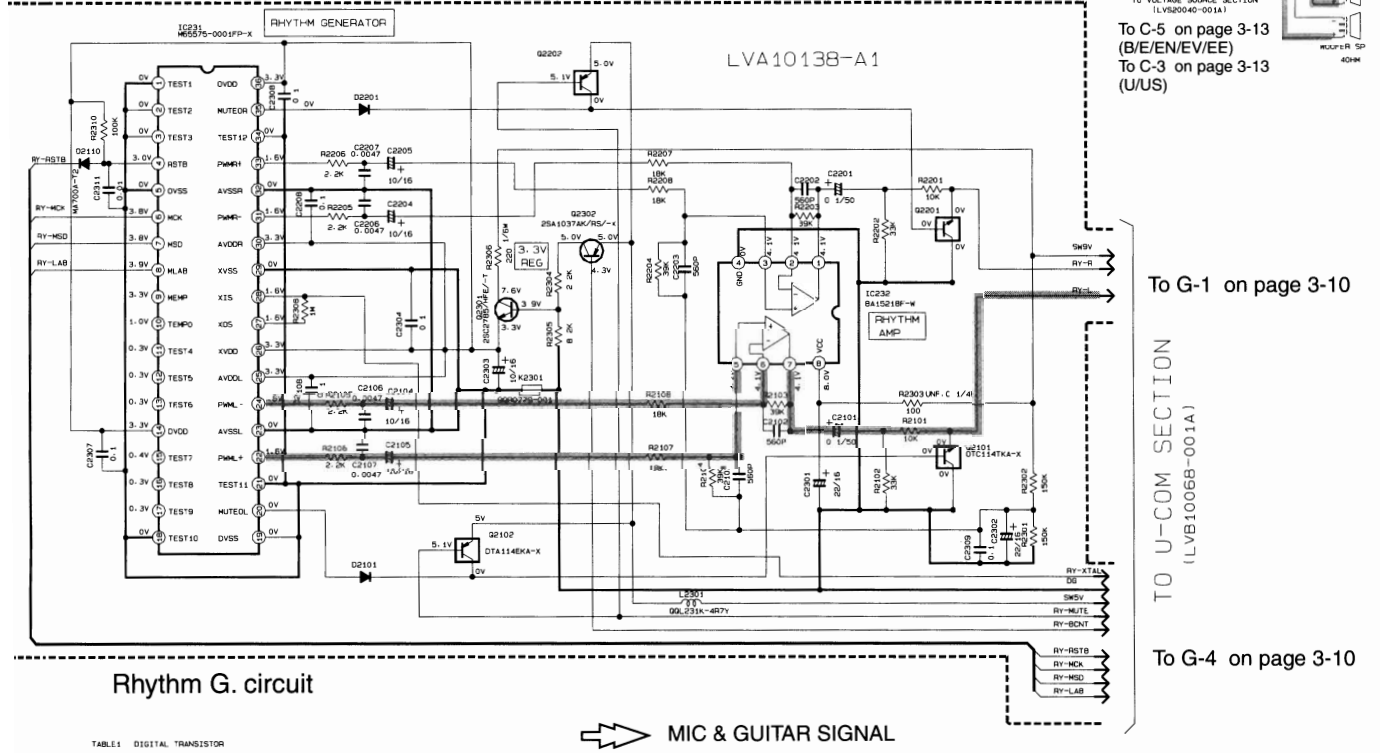


NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- CD STOP AT AC SUPPLY VOL(20) BASS VOL(4) AUX/HEADPHONE/MIC/GUITAR JACK INSERT.
2. UNLESS OTHERWISE SPECIFIED RESISTORS ARE 1/10W ±5% MG RESISTOR
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL INDUCTANCE VALUES ARE IN μH(m=mH)
   ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS254-T2 OR 1SS133-T2



To C-5 on page 3-13 (B/E/EN/EV/EE)
To C-3 on page 3-13 (U/US)



To G-1 on page 3-10
To G-4 on page 3-10

Rhythm G. circuit

TABLE1 DIGITAL TRANSISTOR

DTC114ESA DTA114ESA DTA114TSA DTA143TSA DTA144TSA

MIC & GUITAR SIGNAL
CD & MAIN SIGNAL
AUX SIGNAL SIGNAL
WOOFER SIGNAL

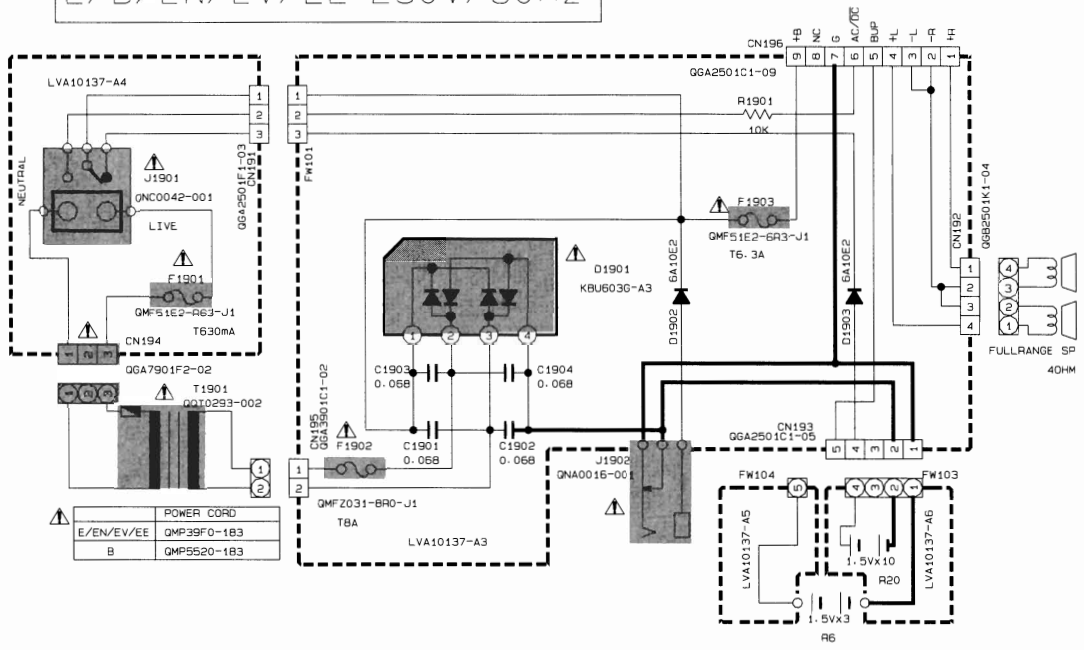
⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

D E F G H

■ Power supply circuit

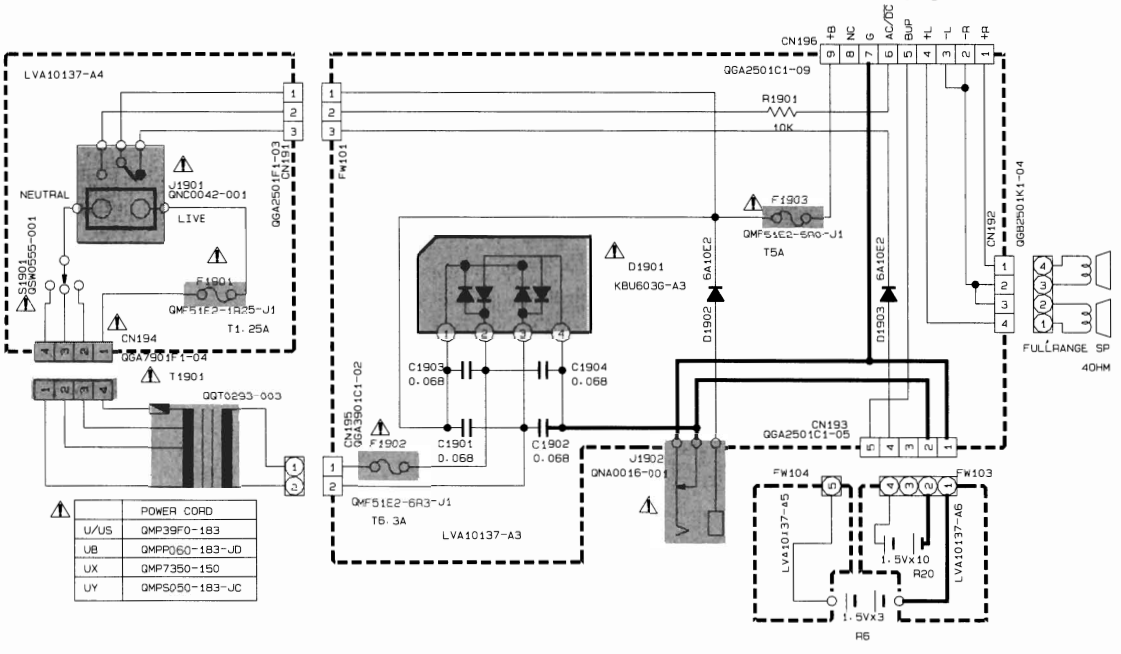
E/B/EN/EV/EE 230V/50Hz

To G-3 on page 3-12



U/US/UB/UX/UY 110V/127V/230V/50Hz

To G-3 on page 3-12

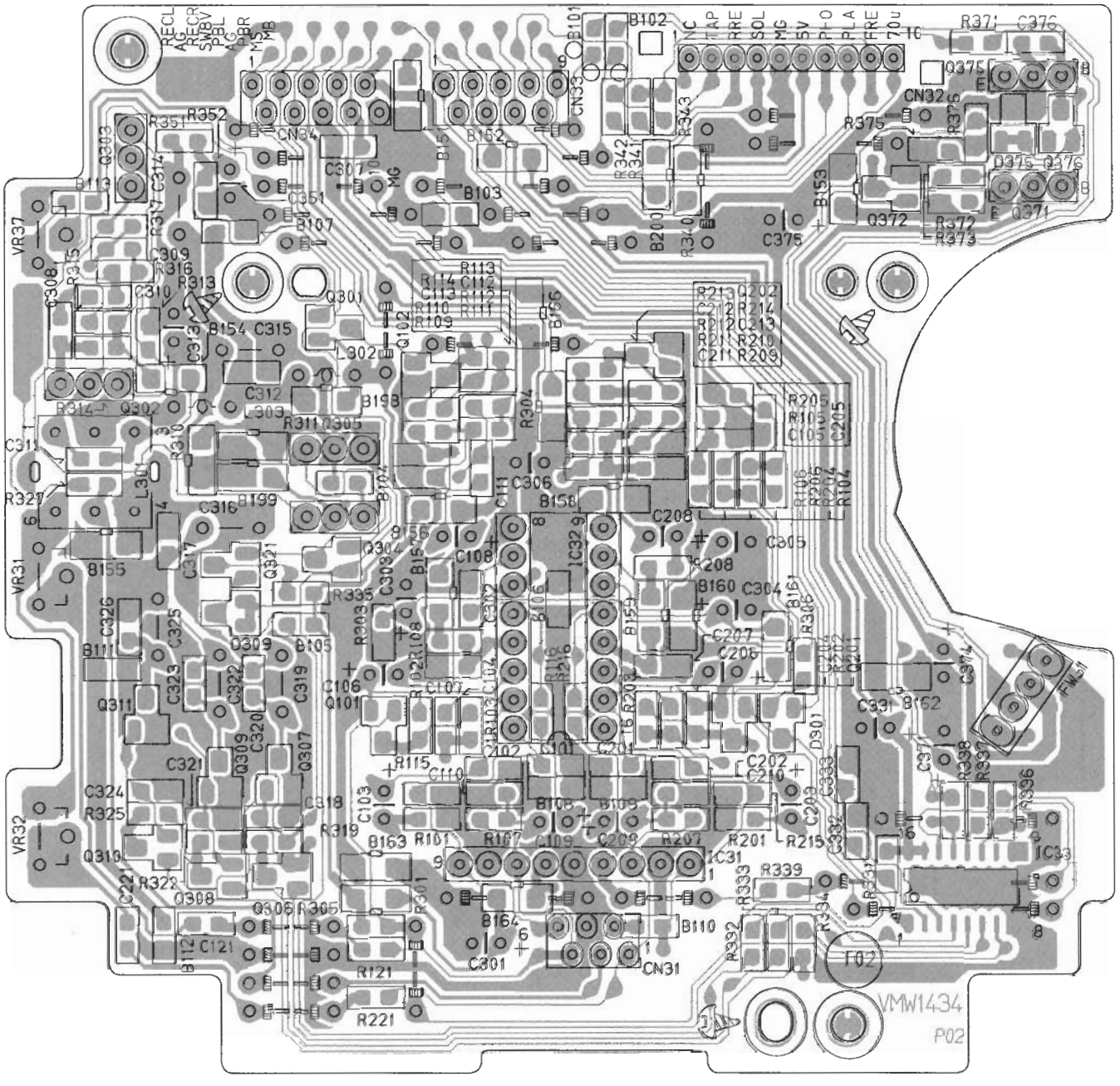


NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER OR OSCILLOSCOPE WITHOUT INPUT SIGNAL.
   CONDITION --- CD STOP MODE
2. UNLESS OTHERWISE SPECIFIED RESISTORS ARE 1/4W ±5% CARBON RESISTOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITORS ARE CERAMIC CAPACITOR OR MYLAR CAPACITOR.
   ALL CAPACITANCE VALUES ARE IN μF(P=pF)

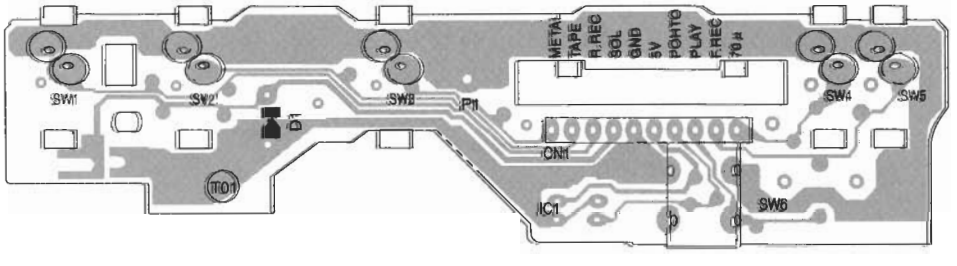
⚠ Parts are safety assurance parts. When replacing those parts make sure to use the specified one.

Printed circuit boards

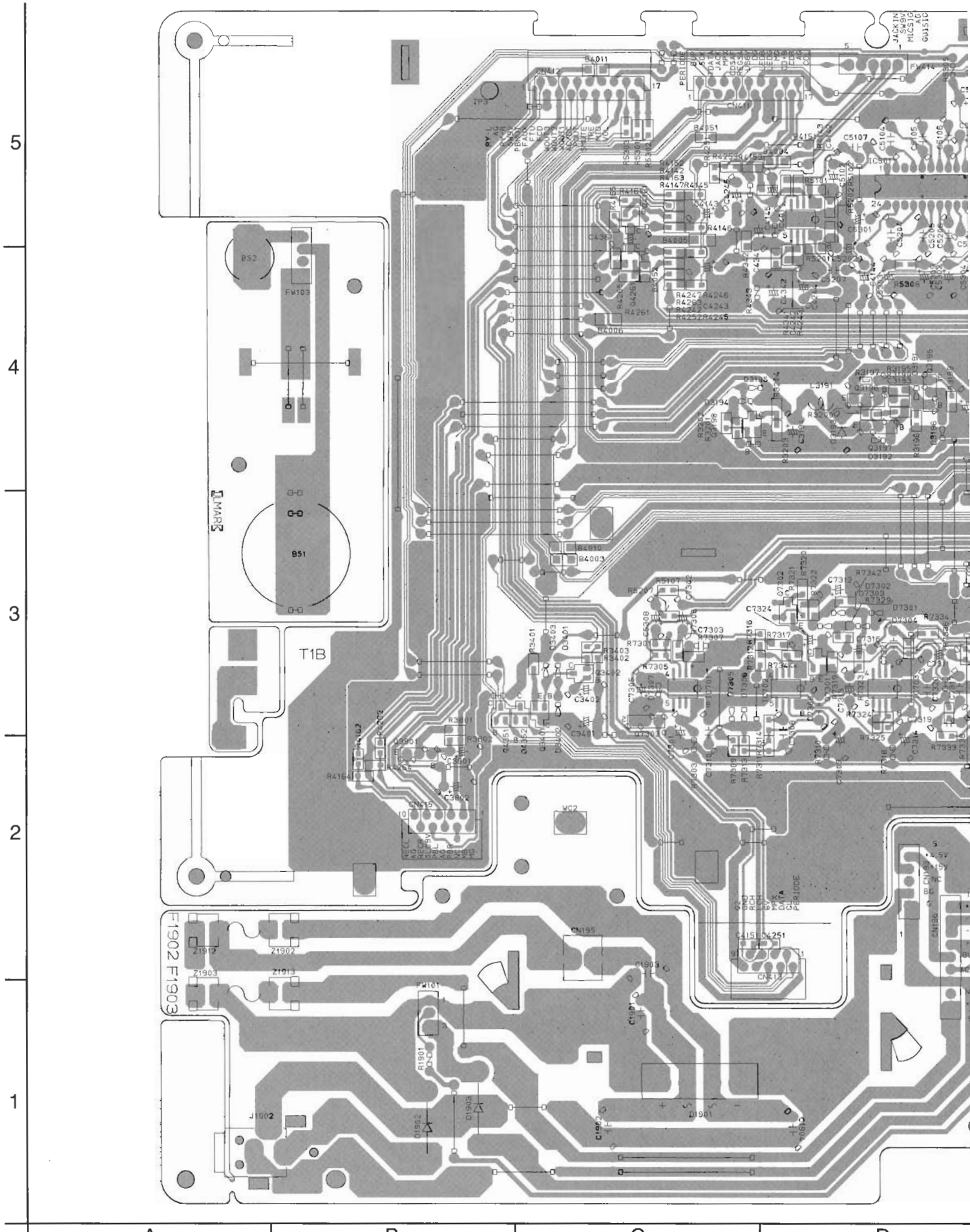
■ Head amplifier & mechanism board

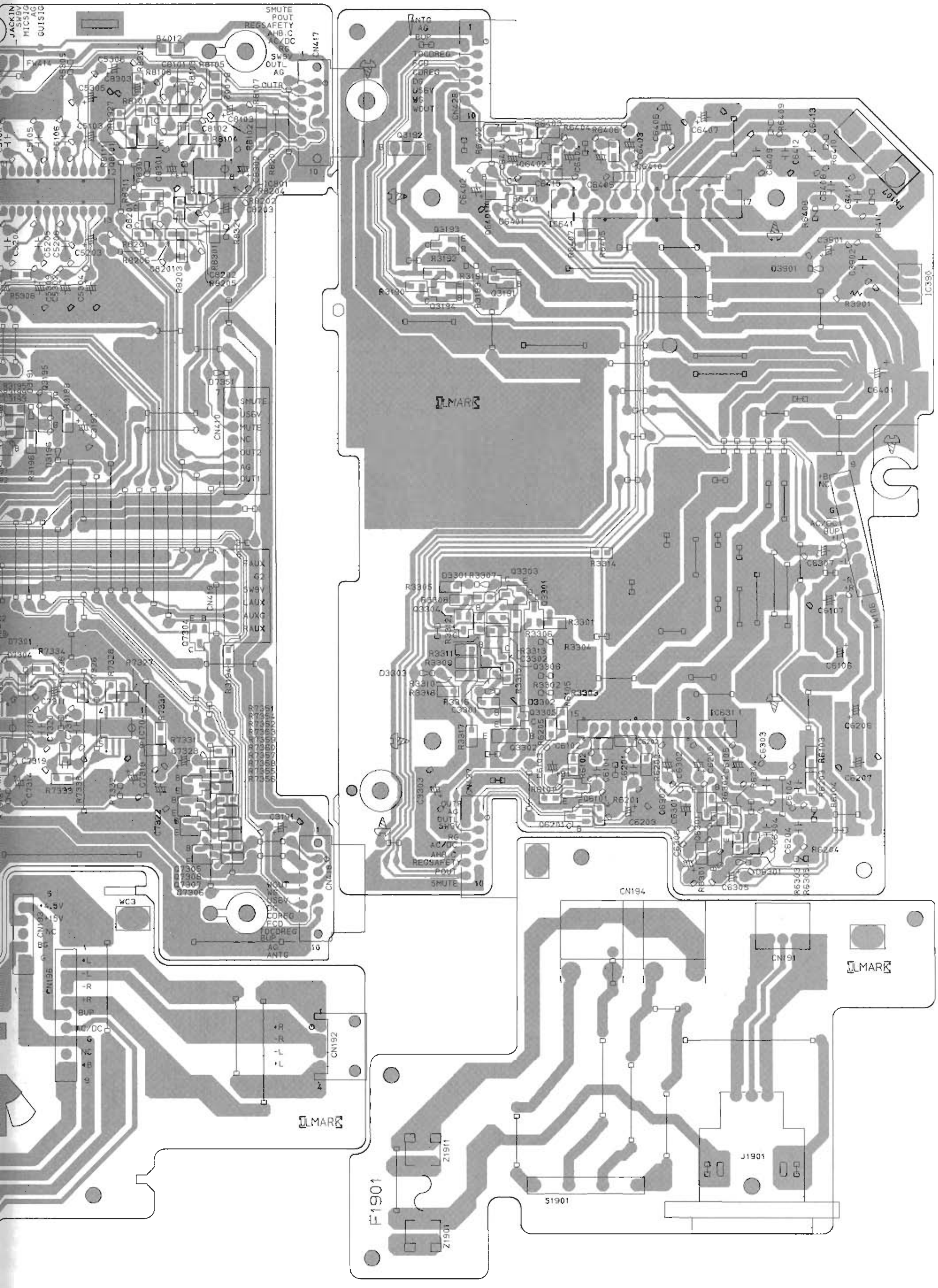


■ Cassette switch board

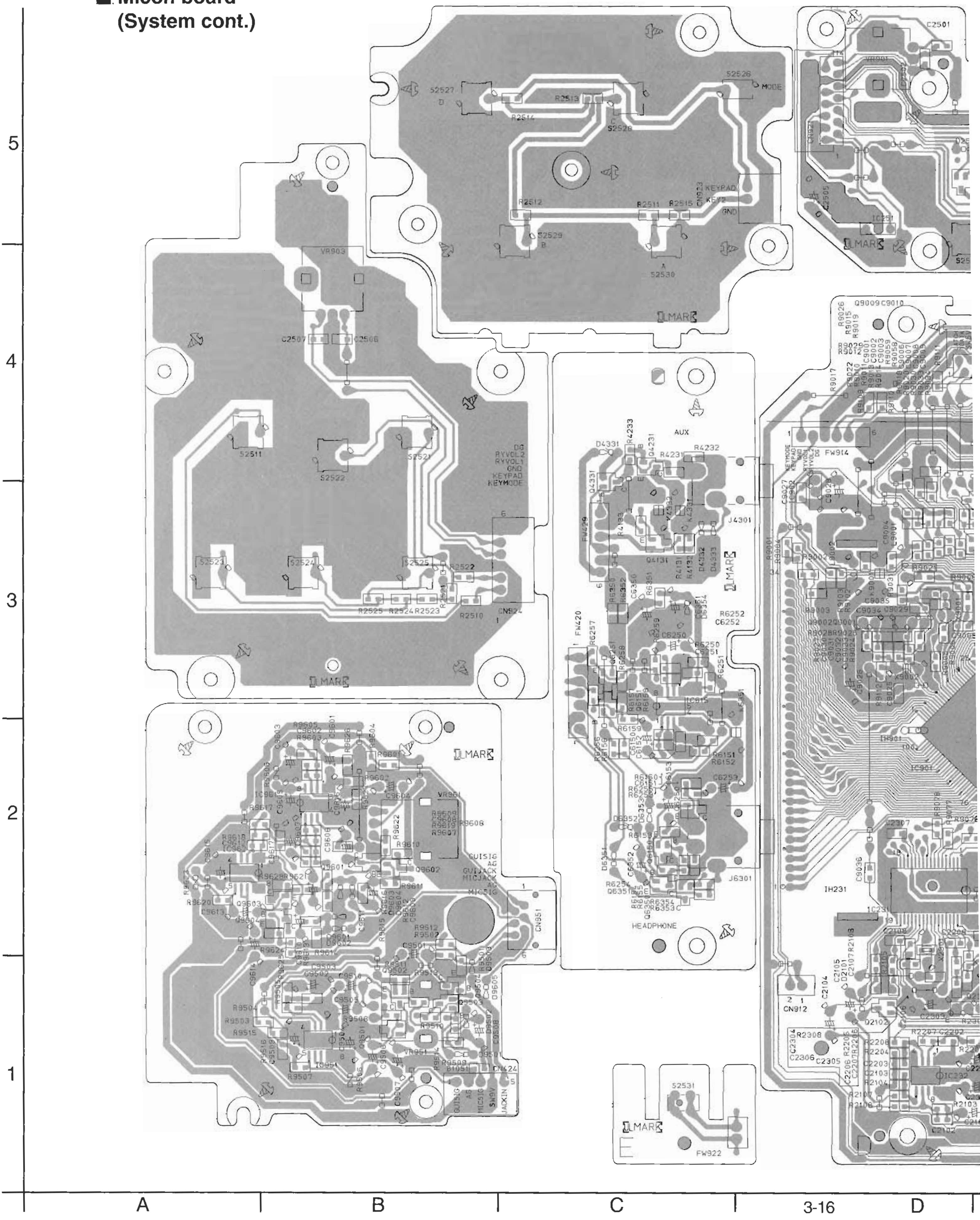


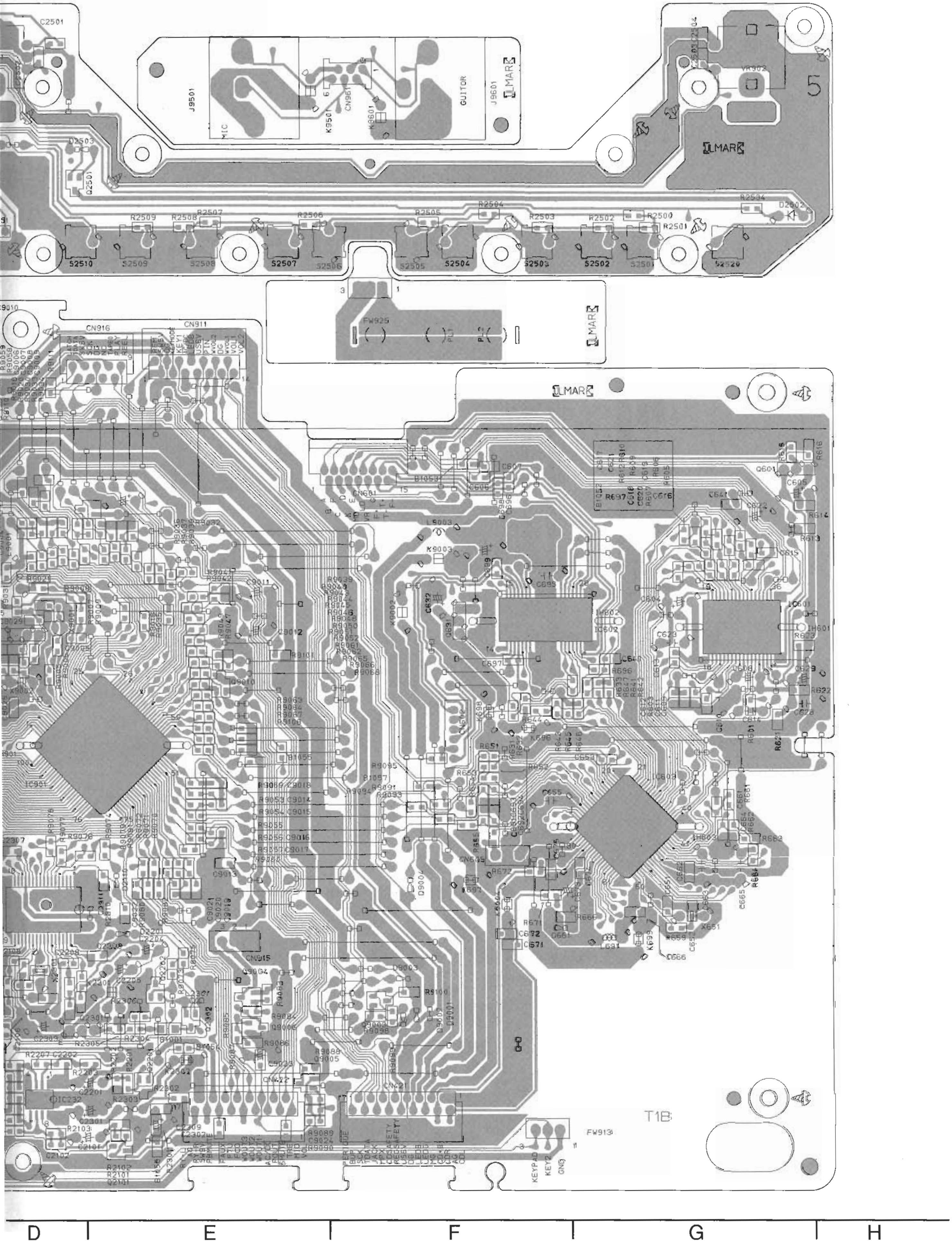
■ Main board




CN417
CN470
CN419
CN418
CN428
CN427
CN194
CN191
CN192
J1901
S1901
F1901
Z1911
Z1901
IC6311
IC390
D3901
R3901
C6401
R3314
WC3
LMARK
LMARK
LMARK
LMARK

■ Micon board (System cont.)



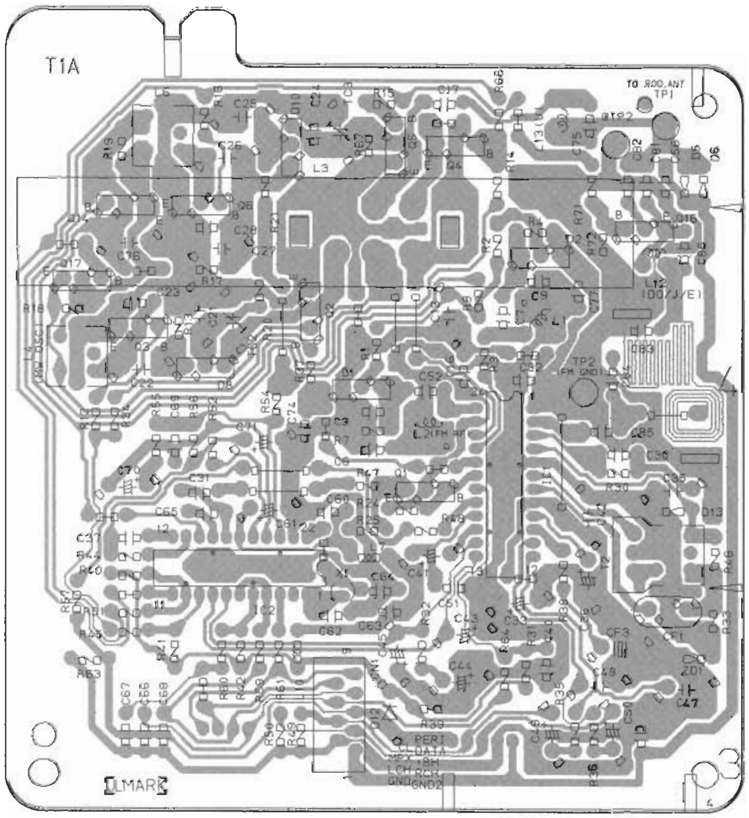


MIC
GUITOR
J9501
J9601
5
T1B
FW913
KEYPAD
KEY2
GND
D
E
F
G
H

■ Tuner Board

5

4



3

2

1

A B C

PARTS LIST

[RV-DP100BK]

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

Area suffix

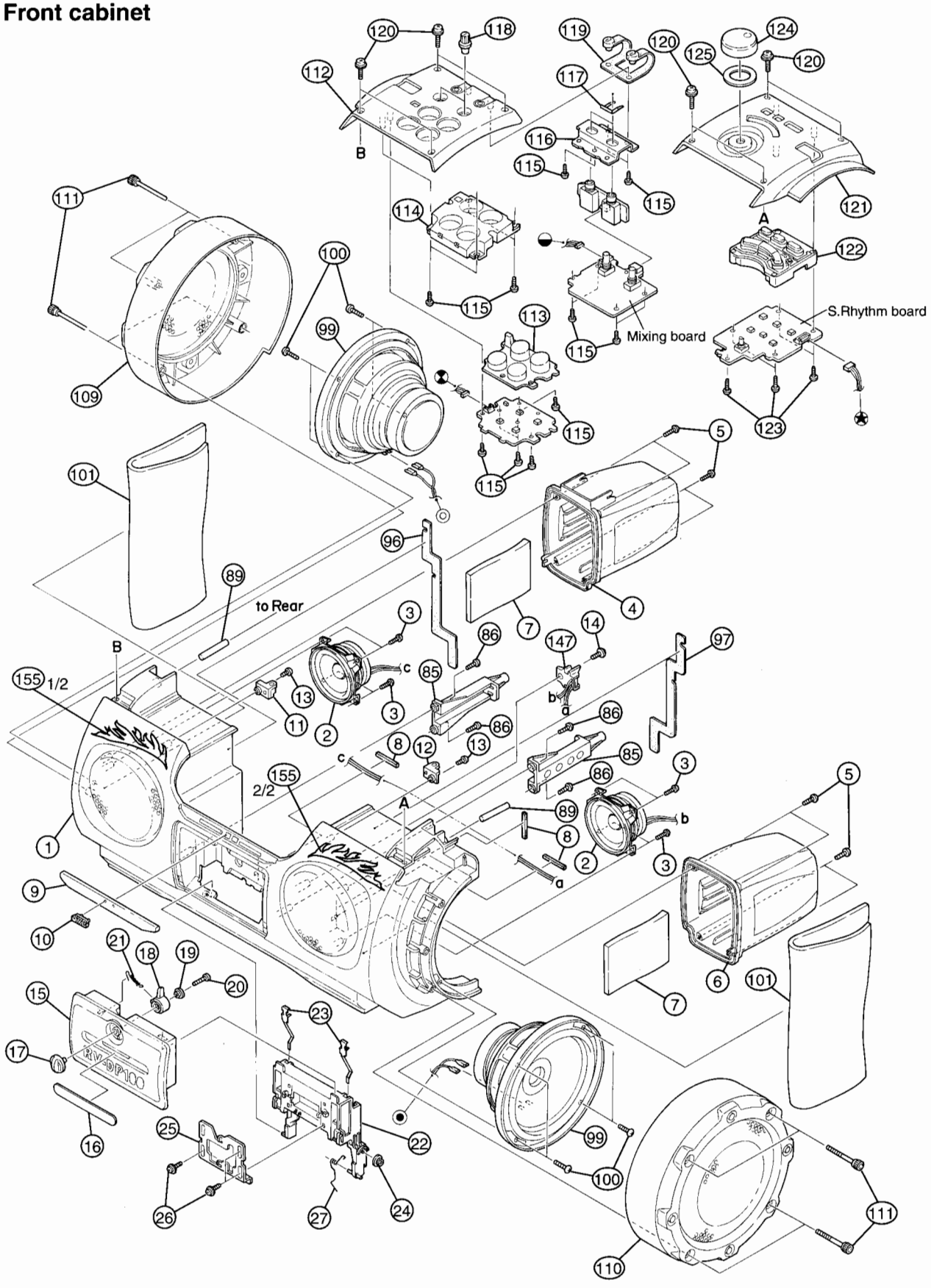
B ---------- U.K.
E ---------- Continental Europe
EN ---------- Northern Europe
EV ---------- Eastern Europe
EE --------- Russian Federation
US ---------- Singapore
U ---------- Other Areas

- Contents -

Exploded view of general assembly and parts list

Block No. M 1 M M

Front cabinet



■ Parts list (General assenbly/Front cabinet)

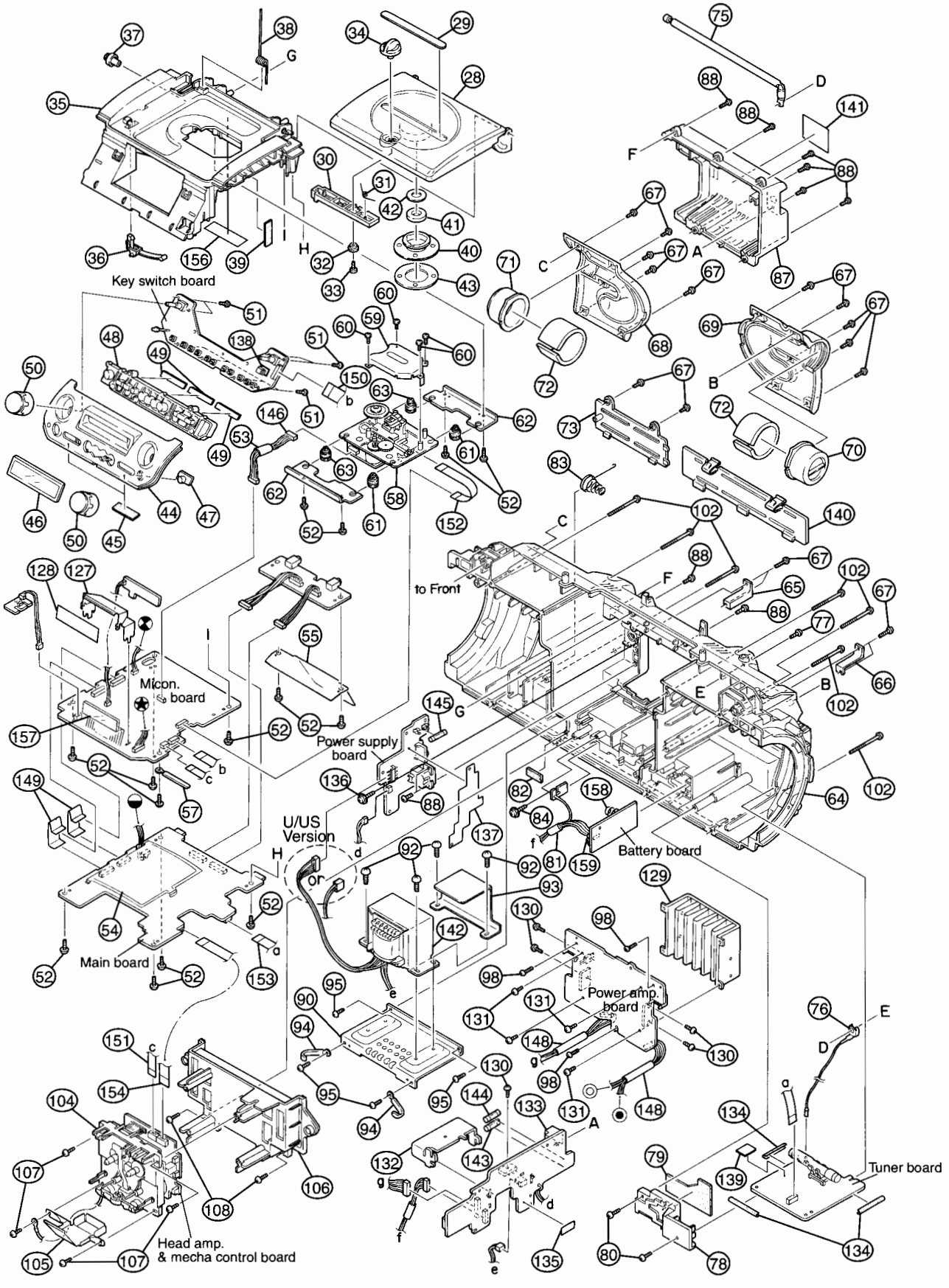
Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV10351-002A	FRONT CABI ASSY	1		
	2	QAS0006-001	SPEAKER	2		
	3	QYSBSF3010Z	SCREW	8	FOR SP	
	4	VYH2280-002	CAP (L)	1		
	5	QYSBSF3010Z	SCREW	8	FOR CAP	
	6	VYH2281-002	CAP (R)	1		
	7	VKZ4389-009	SOUND ABSOBER	2		
	8	VYSH102-097	SPACER	3	FOR SP WIRE	
	9	LV31760-001A	IRUMINATIO LENS	1		
	10	PQ45130-7	JVC MARK	1		
	11	LV31775-001A	HOLDER	1	FRONT TOP	
	12	LV31775-002A	HOLDER(R)	1		
	13	QYSBSF2608Z	T.SCREW	2	HOLDER+FRONT	
	14	QYSBSFG3010Z	TAP SCREW	1	SP CONECTOR	
	15	LV20689-001A	DOOR COVER	1		
	16	LV41573-003A	DOOR LENS	1		
	17	LV40718-001A	EJECT KNOB	1		
	18	LV40719-001A	CAM(CASS)	1		
	19	LV40720-002A	COLLAR (CASS)	1		
	20	QYSDSF2614Z	SCREW	1	EJECT KNOB	
	21	LV40749-001A	TENSION SPRING	1		
	22	LV20298-001A	CASSETTE HOLDER	1		
	23	VKY4180-001	CASSETTE SPRING	2		
	24	VYH5601-001	GEAR	1		
	25	LV30844-001A	EJECT SAFTY	1		
	26	VKZ4794-002	SPECIAL SCREW	3	FOR SAFETY	
	27	LV41854-001A	DOOR SPRING	1		
	85	LV31766-001A	SUPPORT HOLDER	2		
	86	QYSBSF3010Z	SCREW	4	FOR S.HOLDER	
	89	VKH3012-073	SHAFT(E)	2		
	96	LV41599-001A	PACKING SHEET L	1	PEF	
	97	LV41600-002A	PACKING SHEET R	1	PEF	
	99	QAS0007-001	SPEAKER	2	WOOFOR	
	100	QYSBSF4012Z	SCREW	8	FOR WOOFOR	
	101	VKZ4805-001UL	SOUND ABSOBER	2		
	109	LV10352-002A	PROTECT ASSY(L)	1		
	110	LV10354-002A	SIDE PRTC ASY R	1		
	111	VKZ4795-011	SPECIAL SCREW	8	SIDE PRO.	
	112	LV10369-002A	TOP COVER(L)	1		
	113	LV31763-001A	PAD BUTTON	1		
	114	LV20717-001A	BUTTON HOLDER	1		
	115	QYSBSF2608Z	T.SCREW	16		
	116	LV31795-001A	JACK BRACKET	1		
	117	VKL6752-001	SNAP PLATE	2	FOR JACK	
	118	LV31792-001A	VOLUME KNOB	2		
	119	LV41590-001A	JACK CAP	1	FOR JACK	
	120	LV41871-001A	SCREW	8	TOP	
	121	LV10370-002A	TOP COVER(R)	1		
	122	LV20719-001A	CONTROL BUTTON	1		
	123	QYSBSF2608Z	T.SCREW	5	TOP+C.BUTTON	
	124	LV31767-001A	JOG DIAL	1		
	125	LV41770-002A	VOLUME SHEET	1		
	147	WJJ0034-012A	E-SI C WIRE C-C	1	SPEAKER	
	155	SPK-0029	F.STICKER	1	L&R	

Exploded view of general assembly and parts list

Block No. M 2 M M

Rear cabinet



■ Parts list (General assembly/Rear cabinet)

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	28	LV10343-001A	CD DOOR	1		
	29	LV41573-002A	DOOR LENS	1		
	30	LV30846-001A	SLIDER (CD)	1		
	31	LV40725-001A	TORSION SPRING	1		
	32	LV40728-002A	COLLAR (CD)	1		
	33	QYSDSF2614Z	SCREW	1		
	34	LV40718-001A	EJECT KNOB	1		
	35	LV10344-002A	CD CASE	1		
	36	LV40726-001A	LOCK LEVER	1		
	37	VYH4769-002SS	GEAR	1		
	38	LV41744-002A	CD DOOR SPRING	1		
	39	LV30064-063A	SPACER	1		
	40	VYH3644-201	CLAMPER	1		
	41	VYH7313-003	MAGNET	1		
	42	VYH7314-001	YOKE	1		
	43	VYH7315-005	PAD	1		
	44	LV10371-002A	FRONT COVER	1		
	45	LV30064-073A	SPACER	2		
	46	LV31757-002A	LCD LENS	1		
	47	LV41575-002A	REMOCON LENS	1		
	48	LV20690-002A	FUNCTION BUTTON	1		
	49	VYSA1R4-106	SPACER	3		
	50	LV31759-001A	JOG KNOB	2		
	51	QYSBSF2608Z	T.SCREW	8	BUTTON+COVER	
	52	QYSBSF3008Z	SCREW	14		
	53	LV30064-076A	SPACER	1		
	54	LV31794-001A	SHIELD	1	FOR MAIN PWB	
	55	LV32032-002A	BARRIER	1		
	57	VKZ4001-111S	WIRE CLAMP	1		
	58	----------	CD MECHA	1		
	59	VJD5410-204	PICK COVER	1		
	60	QYSDSF2006M	SCREW	4	PICK COVER	
	61	VKZ4791-001	INSULATOR	2		
	62	LV40723-001A	CD MECHA HOLDER	2		
	63	FMYH4003-003	INSULATOR	2		
	64	LV10342-002A	REAR CABINET	1		B,E,EE,EN,EV
		LV10342-003A	REAR CABINET	1		U,US
	65	LV32053-001A	REAR SUPPORT(L)	1		
	66	LV32054-001A	REAR SUPPORT(R)	1		
	67	QYSBSF3010Z	SCREW	16		
	68	LV20692-001A	DUCT(L)	1		
	69	LV20693-001A	DUCT(R)	1		
	70	LV31762-002A	CAP(R)	1		
	71	LV31765-002A	CAP(L)	1		
	72	LV41791-001A	SOUND ABSORBER	2		
	73	VJE3036-001	BATT.LID	1		
	75	FMJA3001-00A(D)	ROD ANT ASS'Y	1		
	76	VYH5012-005	TERMINAL LUG	1		

■ Parts list (General assembly/Rear cabinet)

Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	77	QYSDSP3012N	SCREW	1	FOR ANT	
	78	LV31770-002A	TUNER HOLDER	1		
	79	LV41873-001A	SPACER	1		
	80	QYSBSF3010Z	SCREW	2	FOR TUNER HOLDE	
	81	VYSH101-027	SPACER	1	PEFU 10X10	
	82	LV30064-074A	SPACER	1		
	83	VYH5657-001	BATTERY SPRING	1		
	84	E65923-003	TAPPING SCREW	1	SUM3 PWB	
	87	LV10358-002A	REAR COVER	1		
	88	QYSBSF3010Z	SCREW	10		
	90	LV31769-001A	TRANS BRACKET	1		
	92	QYSBST4006Z	T.SCREW	4	TRANS	
	93	LV41788-001A	SHIELD(T)	1	TRANS	
	94	VKZ4001-111S	WIRE CLAMP	2		
	95	QYSBSF3010Z	SCREW	4	TRANS BKT+REAR	
	98	QYSBSF3010Z	SCREW	3	REAR+H.SINK PWB	
	102	QYSBSF3045Z	SCREW	10	FRONT+REAR	
	104	----------	CASSETTE MECHA	1		
	105	LV30845-001A	HEAD SHIELD	1		
	106	LV10345-002A	C.MECHA CHASSIS	1		
	107	QYSBSF3014M	SCREW	4	MECHA+CHASSIS	
	108	QYSBSF3010Z	SCREW	2	CHASSIS+REAR	
	127	LV31758-003A	LCD HOLDER	1	SPTE T0.4	
	128	LV41593-003A	SHEET	1	FOR LCD HOLDER	
	129	LV31772-002A	HEAT SINK	1		
	130	QYSBSF3012Z	SCREW	5		
	131	QYSBSF3008M	SCREW	4	H.SINK(A)+PWB	
	132	VMH4055-002	HEAT SINK	1	AL T2	
	133	LV31809-001A	DC HOLDER	1	DC JACK	
	134	LV30064-065A	SPACER	3		
	135	VYSA1R4-100	SPACER	1		
	136	E65923-003	TAPPING SCREW	1		U,US
	137	LV41824-001A	BARRIER	1		
	138	LV30064-062A	SPACER	1		
	139	LV41782-001A	SHIELD	1		
	140	VJC2603-002	BATTERY COVER	1		
	141	LV31796-002A	NAME PLATE	1		B,E,EN,EV
		LV31796-003A	NAME PLATE	1		EE
		LV31796-004A	NAME PLATE	1		U,US
⚠	142	QQT0293-003	POWER TRANSF	1	T1901	U,US
⚠		QQT0293-002	POWER TRANSF	1	T1901	B,E,EE,EN,EV
⚠	143	QMF51E2-6R3-J1	FUSE	1	F1902	U,US
⚠		QMF51A2-8R0J1	FUSE	1	F1902	B,E,EE,EN,EV
⚠	144	QMF51E2-5R0-J1	FUSE	1	F1903	U,US
⚠		QMF51E2-6R3-J1	FUSE	1	F1903	B,E,EE,EN,EV
⚠	145	QMF51E2-R63-J1	FUSE	1	F1901	B,E,EE,EN,EV
⚠		QMF51E2-1R25-J1	FUSE	1	F1901	U,US
	146	QJJ010-061501	SIN CR C-C WIRE	1	MICOM - CD MOTO	

■ Parts list (General assembly/Rear cabinet)

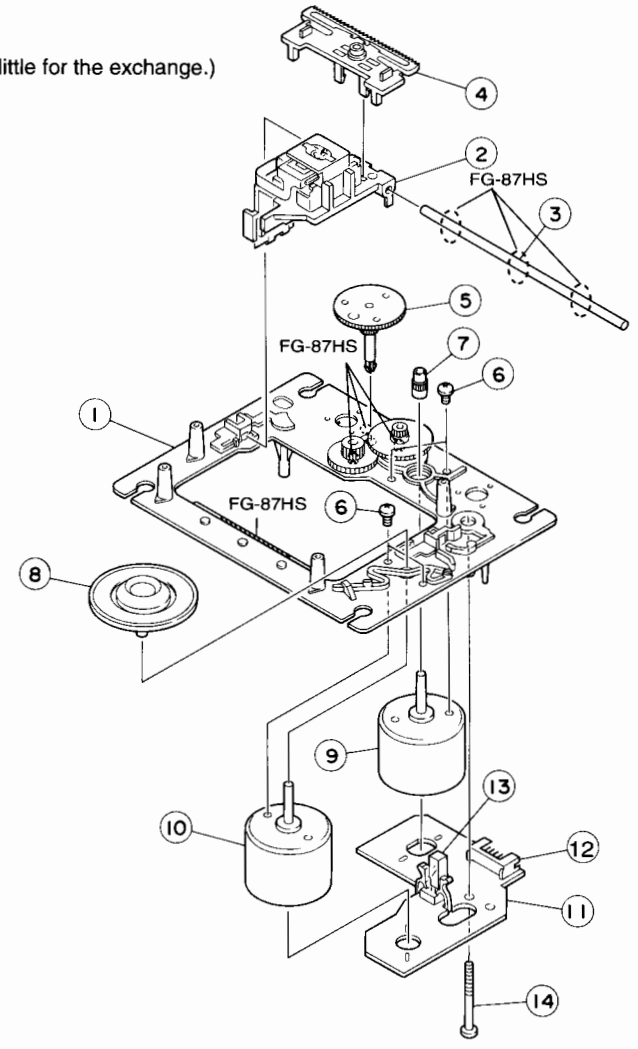
Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	148	QWTBG0H-100	VINYL TUBE	2		
	149	QUQ412-1707CJ	FFC WIRE	2	MICOM - MAIN	
	150	QUQ412-1414DJ	FFC WIRE	1	MICOM - SW	
	151	QUQ412-0918DJ	FFC WIRE	1	MICOM - SLC	
	152	QUQ610-1508AJ	FFC WIRE	1	CD PICK	
	153	QUQ412-0920DJ	FFC WIRE	1	MAIN - TUNER	
	154	QUQ412-1014CJ	FFC WIRE	1	MAIN - SLC	
	156	LV40231-001A	CAUTION LABEL	1		
	157	QLD0121-001	LCD MODULE	1	DI901	
	158	VYH5483-001	BATTERY SPRING	1	BS1	
	159	VYH7199-001	BATTERY SPRING	1	BS2	

CD mechanism assembly and parts list

Block No. M 3 M M

Grease Point
FG-87HS
(Grease to apply have to be a little for the exchange.)



EXL-M7TMB
EXL-M7MB

3 2 1 A B C

■ Parts list (CD mechanism)

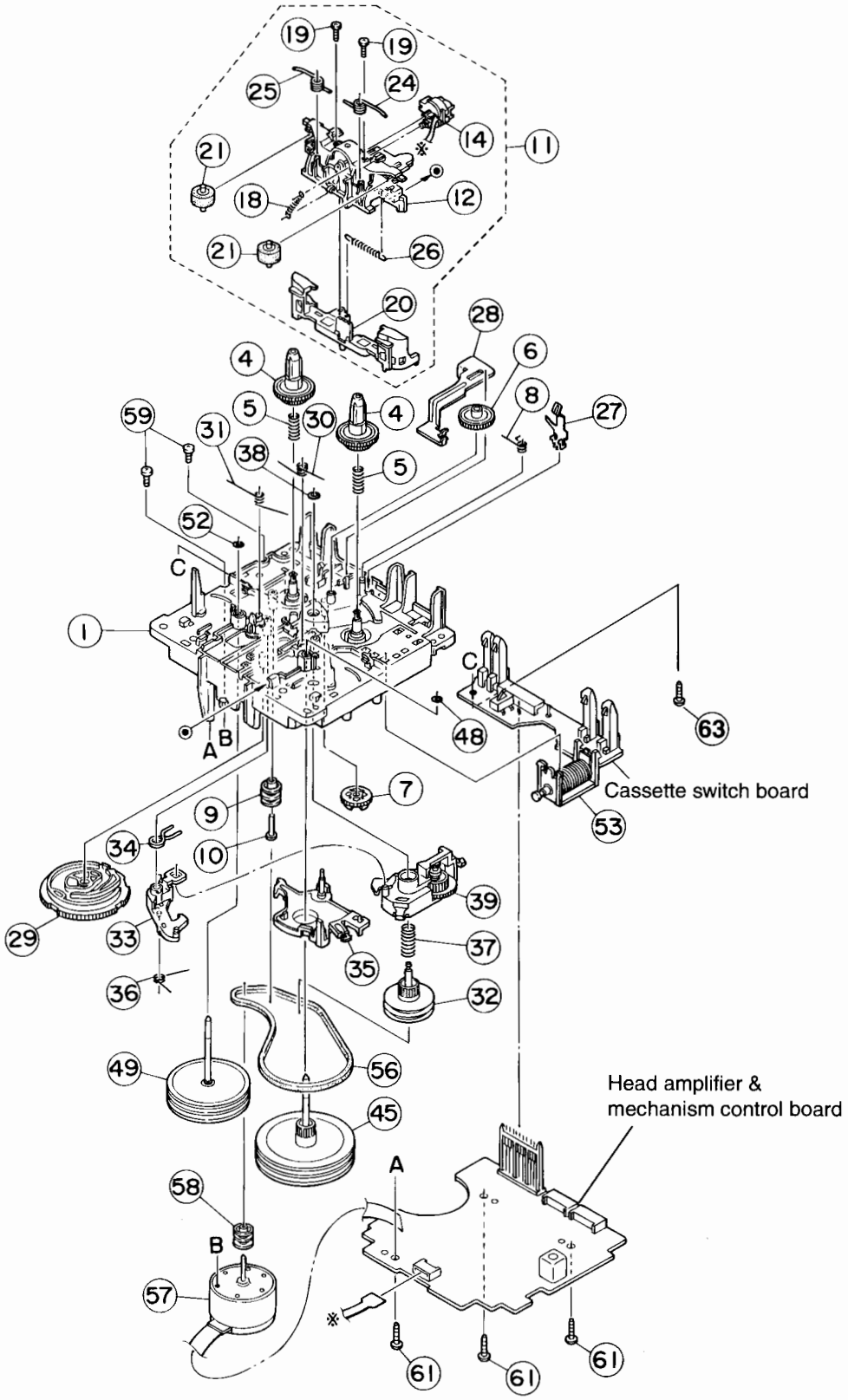
Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	E102731-221SM	MECHA BASE	1		
	2	OPTIMA-7B	OPTICAL PICK UP	1		
	3	E406777-002SM	CD SHAFT	1		
	4	LV31002-001A	CD RACK	1		
	5	E307745-441SM	MECHA GEAR	1		
	6	QYSDSP2003N	SCREW	4		
	7	E406750-442SM	PINION GEAR	1		
	8	EPB-001PK	TURN TABLE	1	SINGLE CD	
		EPB309173PKA	TURN TABLE	1	CHANGER CD	
	9	E406784-001	FEED MOTOR	1		
	10	QAR0130-001	SPPINDLE MOTOR	1		
	11	EMW10190-441	P.C.BOARD	1		
	12	QGA2001F1-06	6P PLUG ASSY	1		
	13	QSW0506-001	LEAF SWITCH	1		
	14	E75832-221SS	SPECIAL SCREW	1		

Cassette mechanism assembly and parts list

Block No. M 4 M M

SLC-S1YPM



■ Parts list (Cassette mechanism)

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	VKS1165-00G	CHASSIS B.ASS'Y	1		
	4	VKS2274-002	REEL GEAR	2		
	5	VKW5286-002	B.T. SPRING	2		
	6	VKS5559-001	PLAY IDLE GEAR	1		
	7	VKS5597-00A	BUND ASS'Y	1		
	8	VKW5296-001	EARTH SPRING	1		
	9	VKR4749-003	IDLE PULLEY	1		
	10	VKH5786-003	SHAFT	1		
	11	VKS2275-00E	HEAD MOUNT ASSY	1		
	12	VKS1167-003	HEAD MOUNT BASE	1		
	14	LV41089-001A	R/P&E HEAD	1	VKS2275-00B	
	18	VKW5302-001	HEAD SPRING	1		
	19	VKZ4730-001	SPECIAL SCREW	2		
	20	VKS2277-005	DIRECTION LEVER	1		
	21	VKP4233-00A	PINCH ROL. ASSY	2		
	24	VKW5299-002	PIN ROL.SP.(R)	1		
	25	VKW5300-002	PIN ROL.SP.(L)	1		
	26	VKW5285-001	RETURN SPRING	1		
	27	VKY3149-002	CASSETTE SP.	1		
	28	VKM3906-002	PLAY SW LEVER	1		
	29	VKS1166-003	CONTROL CAM	1		
	30	VKW5279-001	HEAD BASE SP(R)	1		
	31	VKW5280-001	HEAD BASE SP(L)	1		
	32	VKS5603-00D	MAIN PULLEY ASY	1		
	33	VKS3785-001MM	FR ARM	1		
	34	VKW5284-002	SWING SPRING	1		
	35	VKS2278-003	TRIGGER ARM	1		
	36	VKW5301-001	FR SPRING	1		
	37	VKW5266-001	ELEVATOR SPRING	1		
	38	WDL214025	WASHER	1		
	39	VKS3786-00G	CLUTCH ASS'Y	1		
	45	VKF3205-00B	F.WHEEL ASSY(R)	1		
	48	WDL183425	SLIT WASHER	1		
	49	VKF3207-00B	F.WHEEL ASSY(L)	1		
	52	WDL173525-6	SLIT WASHER	1		
	53	VKZ3174-00A	DC SOLENOID	1		
	56	VKB3000-181	CAPSTAN BELT	1		
	57	MSI-5U2LWA	D.C.MOTOR ASS'Y	1		
	58	VKR4761-001	MOTOR PULLEY	1		
	59	QYSPSP2604Z	SCREW	2		
	61	QYSBSF2608Z	T.SCREW	3	FOR P.W.B.	
	63	QYSBSF2006Z	SCREW	1		

Grease point 1/3

Grease
- ★ EM-30L
- ● UD-24
- ◆ LEN-320M

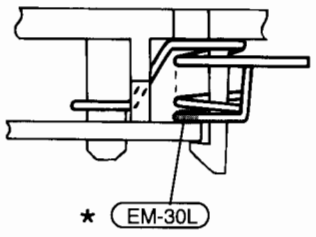


Fig.1

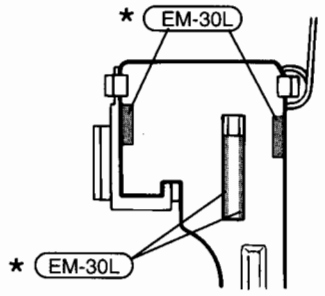


Fig.2

Fig.2

Fig.1

Fig.3

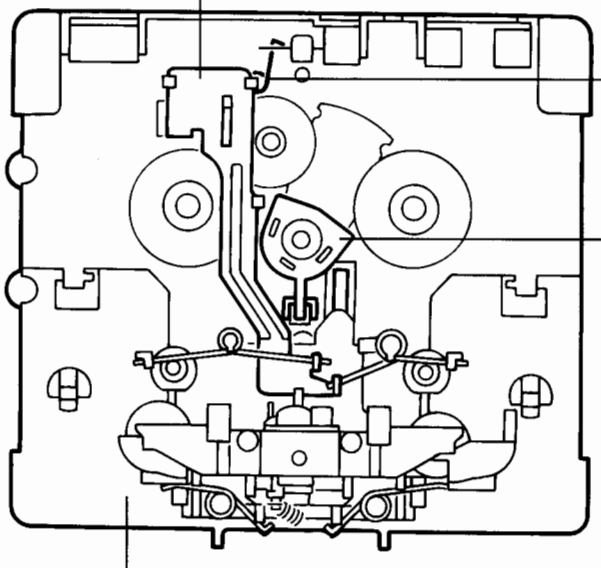


Fig.4

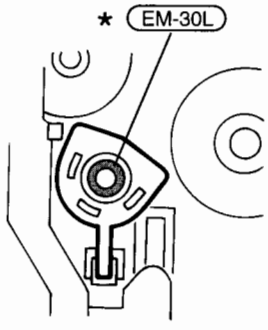


Fig.3

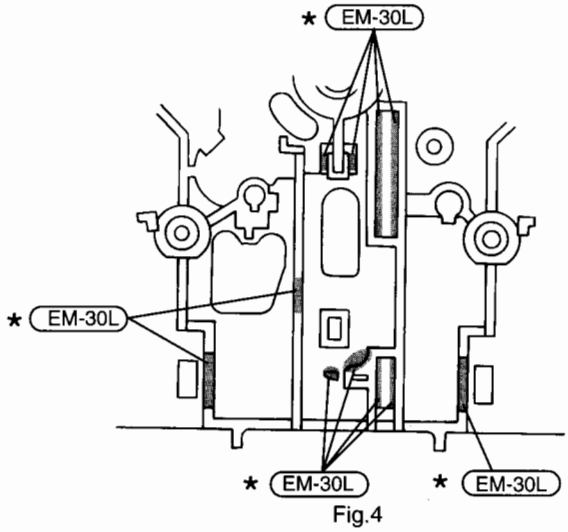


Fig.4

(Remove the Head mount Ass'y on the Chasis Base)

Grease point 2/3

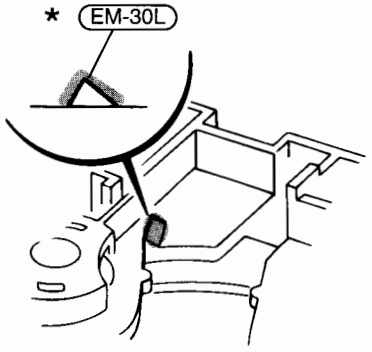


Fig.5

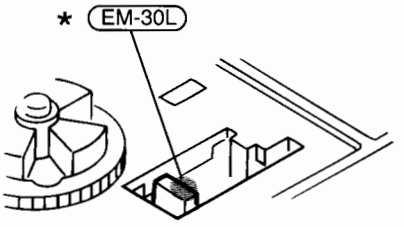
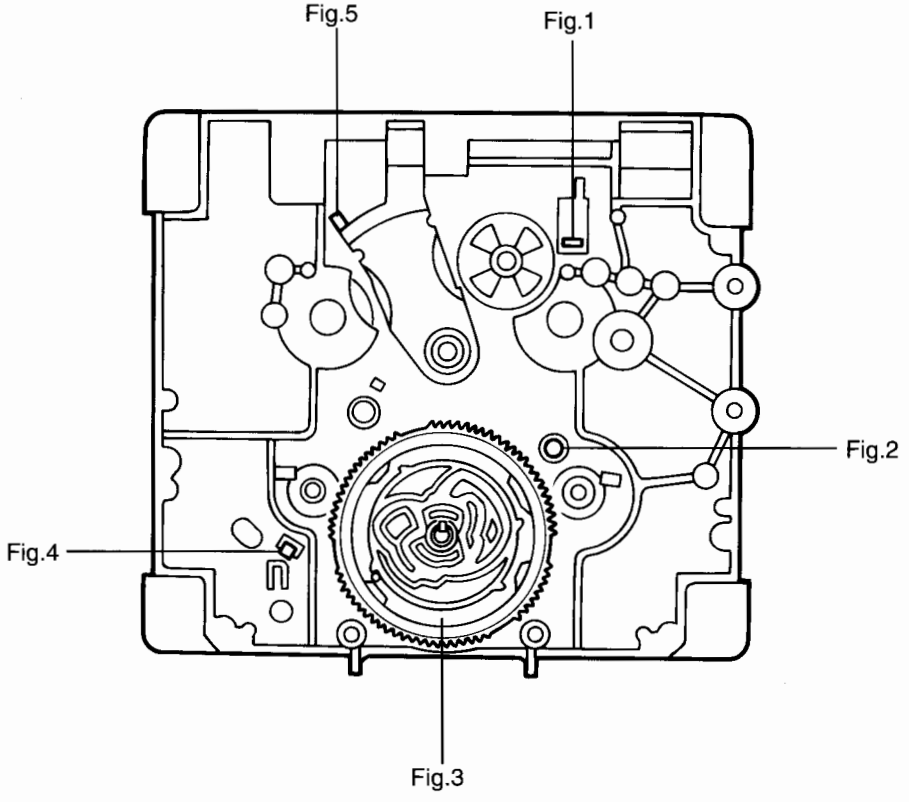


Fig.1



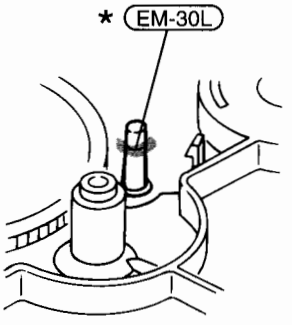


Fig.2

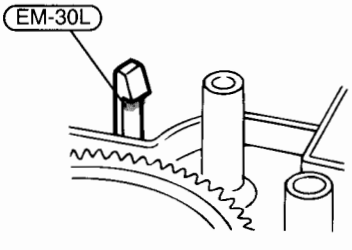
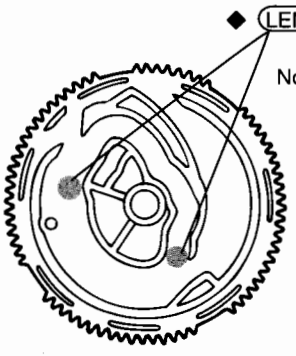


Fig.4



Note: It is a putting up of the control cam to UD-24H(Hanarl) and LEN-320M(Grease)dipping on the Control cam

Fig.3

Grease point 3/3

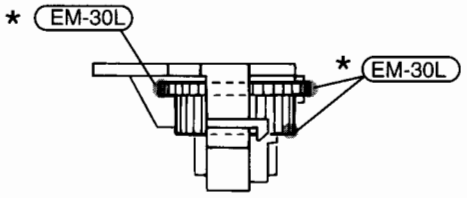


Fig.1

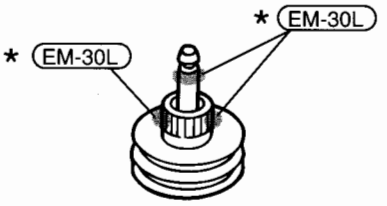
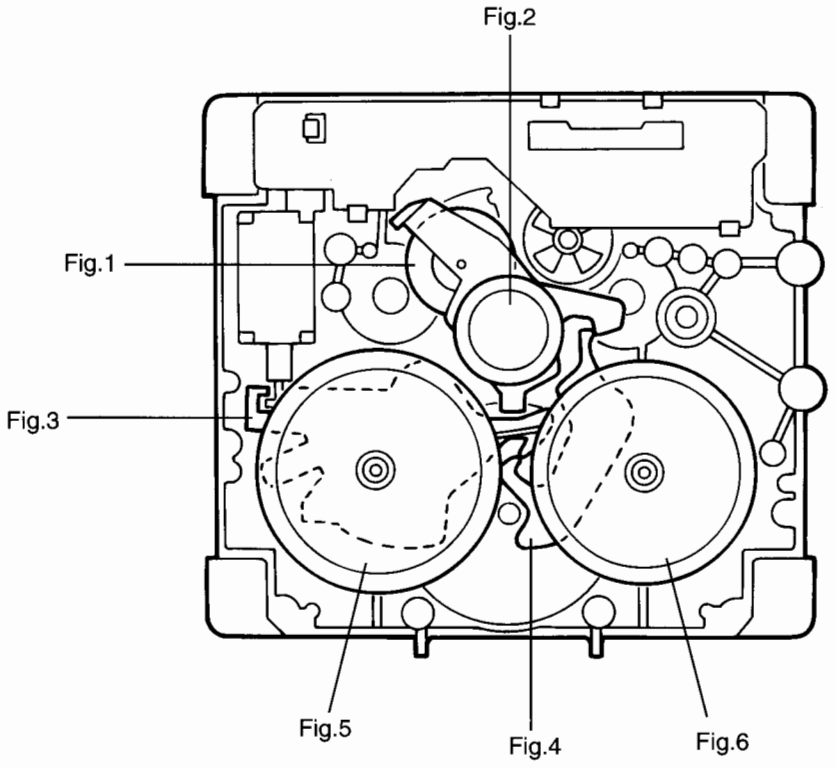


Fig.2



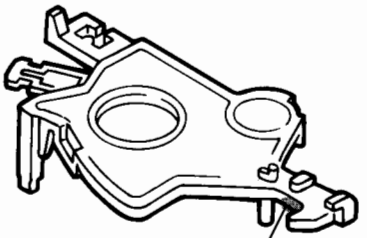


Fig.3

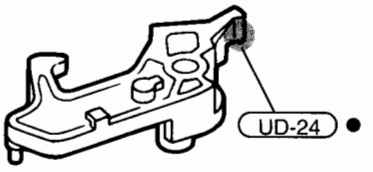


Fig.4

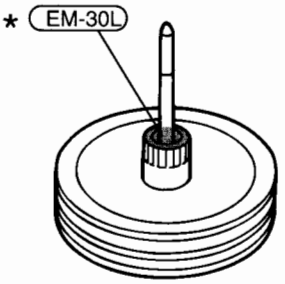


Fig.5

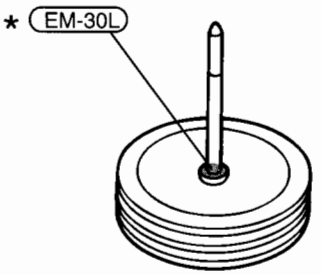


Fig.6

Electrical parts list

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

⚠	Item	Parts number	Parts name	Remarks	Area
	CN191	QGA2501F1-03	CONNECTOR		
	CN192	QGB2501K1-04	CONNECTOR		
	CN193	QGA2501C1-05	5P CONNECTOR		
⚠	CN194	VMZ0076-002A	CONNECTOR		B,E,EE,EN,EV
⚠	CN194	QGA7901F1-04	CONNECTOR		U,US
	CN195	QGA3901C1-02	CONNECTOR		
	CN196	QGA2501C1-09	9P CONNECTOR		
	CN410	VMC0041-007	CONNECTOR		
	CN411	QGF1205F1-17	CONNECTOR		
	CN412	QGF1205F1-17	CONNECTOR		
	CN413	QGF1205F1-09	CONNECTOR		
	CN415	QGF1205F1-10	CONNECTOR		
	CN417	QGB1216J1-10S	CONNECTOR		
	CN418	QGB1216J1-10S	CONNECTOR		
	CN419	VMC0041-006	CONNECTOR		
	CN427	QGB1216K1-10S	CONNECTOR	MAIN	
	CN428	QGB1216K1-10S	CONNECTOR	MAIN	
	C1901	QFLM1HJ-683Z	M CAPACITOR	.068MF 5% 50V	
	C1902	QFLM1HJ-683Z	M CAPACITOR	.068MF 5% 50V	
	C1903	QFLM1HJ-683Z	M CAPACITOR	.068MF 5% 50V	
	C1904	QFLM1HJ-683Z	M CAPACITOR	.068MF 5% 50V	
	C3191	QEKC1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C3192	QETN1EM-107Z	E CAPACITOR	100MF 20% 25V	
	C3193	NCS21HJ-101X	C CAPACITOR		
	C3194	QETN1EM-107Z	E CAPACITOR	100MF 20% 25V	
	C3301	NCB21HK-103X	C CAPACITOR		
	C3302	NCS21HJ-221X	C CAPACITOR		
	C3303	QER61CM-107Z	E CAPACITOR	100MF 20% 16V	
	C3401	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C3402	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C3801	QETN1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C3802	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C3901	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C3902	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C4142	NCS21HJ-150X	C CAPACITOR		
	C4143	QEK41HM-474	E CAPACITOR	.47MF 20% 50V	
	C4144	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C4145	QTE1V06-106Z	E CAPACITOR		
	C4151	NCS21HJ-681X	C CAPACITOR		
	C4242	NCS21HJ-150X	C CAPACITOR		
	C4243	QEK41HM-474	E CAPACITOR	.47MF 20% 50V	
	C4244	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C4245	QTE1V06-106Z	E CAPACITOR		
	C4251	NCS21HJ-681X	C CAPACITOR		
	C4341	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C4342	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C4361	QEKC1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C5102	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C5103	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C5104	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C5105	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C5106	QFLM1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C5107	QFLM1HJ-182Z	M CAPACITOR	1800PF 5% 50V	
	C5202	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C5203	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C5204	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C5205	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C5206	QFLM1HJ-562Z	M CAPACITOR	5600PF 5% 50V	
	C5207	QFLM1HJ-182Z	M CAPACITOR	1800PF 5% 50V	
	C5301	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C5302	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C5303	QEKC1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C5304	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C5305	QEKC1CM-107Z	E CAPACITOR	100MF 20% 16V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C5306	QEK41EM-475	E CAPACITOR	4.7MF 20% 25V	
	C5308	QEK41HM-474	E CAPACITOR	.47MF 20% 50V	
	C5309	QER61HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C6101	QFVF1HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C6102	NCS21HJ-471X	C CAPACITOR		
	C6103	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C6104	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6105	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C6106	QETM1EM-108	E CAPACITOR	1000MF 20% 25V	
	C6107	QTE1E06-476Z	E CAPACITOR		
	C6201	QFVF1HJ-224Z	TF CAPACITOR	.22MF 5% 50V	
	C6202	NCS21HJ-471X	C CAPACITOR		
	C6203	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C6204	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6205	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C6206	QETM1EM-108	E CAPACITOR	1000MF 20% 25V	
	C6207	QTE1E06-476Z	E CAPACITOR		
	C6301	QETN1EM-227Z	E CAPACITOR	220MF 20% 25V	
	C6302	QETN1EM-107Z	E CAPACITOR	100MF 20% 25V	
	C6303	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6304	QFVF1HJ-334Z	TF CAPACITOR	.33MF 5% 50V	
	C6305	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C6306	QETN1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C6307	QETN1EM-107Z	E CAPACITOR	100MF 20% 25V	
	C6308	QDGB1HK-102Y	C CAPACITOR		
	C6401	QETM1EM-688	E CAPACITOR	6800MF 20% 25V	
	C6402	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6403	QETN1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C6404	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6405	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6406	QETN1EM-227Z	E CAPACITOR	220MF 20% 25V	
	C6407	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C6408	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6409	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6410	NCS21HJ-471X	C CAPACITOR		
	C6411	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6412	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6413	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C6414	QETN1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C6415	NCS21HJ-471X	C CAPACITOR		
	C7301	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C7302	QETN1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C7303	QCSB1HK-3R3Y	C CAPACITOR	3.3PF 10% 50V	
	C7305	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C7306	QFVF1HJ-274Z	TF CAPACITOR	.27MF 5% 50V	
	C7308	QFLM1HJ-103Z	M CAPACITOR	.010MF 5% 50V	
	C7309	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C7310	QFLM1HJ-153Z	M CAPACITOR	.015MF 5% 50V	
	C7311	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C7312	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C7313	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C7314	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C7316	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C7317	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C7318	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C7319	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C7320	QFLM1HJ-393Z	M CAPACITOR	.039MF 5% 50V	
	C7321	QFVF1HJ-154Z	TF CAPACITOR	.15MF 5% 50V	
	C7322	QEKC1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C7323	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C7324	QETN1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C8101	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C8102	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C8103	QTE1E06-476Z	E CAPACITOR		

■ Electrical parts list (Main board)

Block No. 01

⚠	Item	Parts number	Parts name	Remarks	Area
	C8201	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C8202	QFLM1HJ-563Z	M CAPACITOR	.056MF 5% 50V	
	C8203	QTE1E06-476Z	E CAPACITOR		
	C8301	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C8302	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C8303	QEKC1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
⚠	D1901	KBU603G-A3	DIODE		
	D1902	6A10E2	SI DIODE		
	D1903	6A10E2	SI DIODE		
	D3191	1SS133-T2	SI DIODE		
	D3192	MTZJ7.5A-T2	Z.DIODE		
	D3193	SRT14	DIODE		
	D3194	MTZJ7.5A-T2	Z.DIODE		
	D3195	1SS133-T2	SI DIODE		
	D3196	1SS133-T2	SI DIODE		
	D3301	1SS133-T2	SI DIODE		
	D3302	MTZJ9.1A-T2	ZENER DIODE		
	D3303	1SS133-T2	SI DIODE		
	D3401	1SS133-T2	SI DIODE		
	D3402	1SS133-T2	SI DIODE		
	D3403	MTZJ3.9B-T2	Z DIODE		
	D3901	MTZJ8.2B-T2	DIODE		
	D6301	1SS133-T2	SI DIODE		
	D6401	1SS133-T2	SI DIODE		
	D7301	1SS133-T2	SI DIODE		
	D7302	1SS133-T2	SI DIODE		
	D7303	1SS133-T2	SI DIODE		
	D7304	1SS133-T2	SI DIODE		
	D7305	1SS133-T2	SI DIODE		
	D7306	1SS133-T2	SI DIODE		
	D7307	MTZJ4.3B-T2	ZENER DIODE		
	D7351	1SS133-T2	SI DIODE		
	D8301	MTZJ4.3B-T2	ZENER DIODE		
	FW101	QJK019-033803	SIN CR C-B WIRE	PRIMARY - SECON	
	FW103	WJK0003-002A	E-SI C WIRE C-B	BATT - SECONDAR	
	FW106	WJK0098-001A	E-SI C WIRE C-B	POWER - SECONDA	
	FW107	WJK0004-002A	E-SI C WIRE C-B	POWER - WOOFER	
	FW414	QJK025-052600	SIN CR C-B WIRE	MAIN - MIC/GUIT	
⚠	IC390	TA78DL06S	IC		
	IC401	BA15218F-XE	IC	ADDER	
	IC501	BH3852S	IC		
⚠	IC631	TA8223K	IC		
⚠	IC641	TA8233H	IC		
	IC701	BA15218F-XE	IC		
	IC702	BA15218F-XE	IC		
	IC703	BA15218F-XE	IC		
	IC704	BA15218F-XE	IC		
	IC801	BA15218F-XE	IC		
⚠	J1901	QNC0042-001	AC SOCKET		
⚠	J1902	QNA0016-001	DC JACK		
	L3191	QQL28AK-101	CHOKE COIL		
	Q3191	DTA143TKA-X	TRANSISTOR		
⚠	Q3192	2SA1359/OY/	TRANSISTOR		
	Q3193	DTA114TKA-X	D.TRANSIATOR		
	Q3194	2SC2412K/R/-X	TRANSISTOR		
	Q3195	2SA1175/HFE/-T	TRANSISTOR		
	Q3196	2SA934/QR/-T	TRANSISTOR		
	Q3197	2SC2785/FE/-T	TRANSISTOR		
	O3198	DTC114TKA-X	TRANSISTOR		
	Q3301	2SA1037AK/RS/-X	TRANSISTOR		
⚠	Q3302	2SB1565/EF/	TRANSISTOR		
	Q3303	DTA144TKA-X	TRANSISTOR		
	Q3304	DTC144TKA-X	TRANSISTOR		
	Q3305	2SC2412K/R/-X	TRANSISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	Q3306	2SC2412K/R/-X	TRANSISTOR		
	Q3401	2SA1037AK/RS/-X	TRANSISTOR	TUNER SW	
	Q3402	2SC2412K/R/-X	TRANSISTOR		
	Q3801	2SC2001/LK/-T	TRANSISTOR		
	Q4161	2SD2114K/VW/-X	TRANSISTOR		
	Q4261	2SD2114K/VW/-X	TRANSISTOR		
	Q4351	DTC144TKA-X	TRANSISTOR		
	Q4352	DTC144TKA-X	TRANSISTOR		
	Q6101	2SD2114K/VW/-X	TRANSISTOR	MUTE	
	Q6201	2SD2114K/VW/-X	TRANSISTOR	MUTE	
⚠	Q6301	2SA952/LK/-T	TRANSISTOR	POUT	
	Q6302	2SC2412K/R/-X	TRANSISTOR	POUT	
	Q6401	DTA114EKA-X	D.TRANSISTOR		
	Q6402	2SD2114K/VW/-X	TRANSISTOR		
	Q7301	2SC2412K/R/-X	TRANSISTOR		
	Q7302	2SC2412K/R/-X	TRANSISTOR		
	Q7303	2SK105/EF/-T	TRANSISTOR(FET)		
	Q7304	DTC114EKA-X	TRANSISTOR		
	Q7305	DTC114EKA-X	TRANSISTOR		
	Q7306	DTC114EKA-X	TRANSISTOR		
	Q7307	DTC114EKA-X	TRANSISTOR		
	Q7308	DTC114EKA-X	TRANSISTOR		
	Q8101	2SC2412K/R/-X	TRANSISTOR		
	Q8201	2SC2412K/R/-X	TRANSISTOR		
	R1901	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R3190	NRSA02J-101X	MG RESISTOR		
⚠	R3191	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R3192	NRSA02J-152X	MG RESISTOR		
	R3193	NRSA02J-104X	MG RESISTOR		
	R3194	NRSA02J-103X	MG RESISTOR		
	R3195	NRSA02J-222X	MG RESISTOR		
	R3196	NRSA02J-103X	MG RESISTOR		
⚠	R3197	QAD0015-153Z	THERMISTOR		
	R3198	NRSA02J-472X	MG RESISTOR		
	R3199	NRSA02J-473X	MG RESISTOR		
	R3200	NRSA02J-123X	MG RESISTOR		
	R3201	NRSA02J-152X	MG RESISTOR		
	R3202	NRSA02J-152X	MG RESISTOR		
	R3203	NRSA02J-822X	MG RESISTOR		
	R3204	NRSA02J-472X	MG RESISTOR		
	R3301	NRSA02J-471X	MG RESISTOR		
⚠	R3302	QRE141J-1R0Y	C RESISTOR	1.0 5% 1/4W	
⚠	R3303	QRE141J-1R0Y	C RESISTOR	1.0 5% 1/4W	
⚠	R3304	QRE141J-1R0Y	C RESISTOR	1.0 5% 1/4W	
	R3305	NRSA02J-222X	MG RESISTOR		
	R3306	NRSA02J-682X	MG RESISTOR		
	R3307	NRSA02J-102X	MG RESISTOR		
	R3308	NRSA02J-222X	MG RESISTOR		
	R3309	NRSA02J-681X	MG RESISTOR		
	R3310	NRSA02J-681X	MG RESISTOR		
	R3311	NRSA02J-681X	MG RESISTOR		
	R3312	NRSA02J-472X	MG RESISTOR		
	R3313	NRSA02J-471X	MG RESISTOR		
	R3314	NRSA02J-332X	MG RESISTOR		
	R3315	NRSA02J-472X	MG RESISTOR		
	R3316	NRSA02J-472X	MG RESISTOR		
	R3317	NRSA02J-682X	MG RESISTOR		
	R3318	NRSA02J-332X	MG RESISTOR		
	R3401	NRSA02J-390X	MG RESISTOR		
	R3402	NRSA02J-102X	MG RESISTOR		
	R3403	NRSA02J-472X	MG RESISTOR		
	R3801	NRSA02J-0R0X	MG RESISTOR		
	R3802	NRSA02J-331X	MG RESISTOR		
⚠	R3901	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	

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

⚠	Item	Parts number	Parts name	Remarks	Area
	R4142	NRSA02J-303X	MG RESISTOR		
	R4143	NRSA02J-224X	MG RESISTOR		
	R4145	NRSA02J-124X	MG RESISTOR		
	R4146	NRSA02J-124X	MG RESISTOR		
	R4147	NRSA02J-124X	MG RESISTOR		
	R4151	NRSA02J-154X	MG RESISTOR		
	R4152	NRSA02J-183X	MG RESISTOR		
	R4153	NRSA02J-473X	MG RESISTOR		
	R4161	NRSA02J-333X	MG RESISTOR		
	R4162	NRSA02J-102X	MG RESISTOR		
	R4163	NRSA02J-332X	MG RESISTOR		
	R4164	NRSA02J-821X	MG RESISTOR		
	R4165	NRSA02J-562X	MG RESISTOR		
	R4242	NRSA02J-303X	MG RESISTOR		
	R4243	NRSA02J-224X	MG RESISTOR		
	R4245	NRSA02J-124X	MG RESISTOR		
	R4246	NRSA02J-124X	MG RESISTOR		
	R4247	NRSA02J-124X	MG RESISTOR		
	R4251	NRSA02J-154X	MG RESISTOR		
	R4252	NRSA02J-183X	MG RESISTOR		
	R4253	NRSA02J-473X	MG RESISTOR		
	R4261	NRSA02J-333X	MG RESISTOR		
	R4262	NRSA02J-102X	MG RESISTOR		
	R4263	NRSA02J-332X	MG RESISTOR		
	R4264	NRSA02J-821X	MG RESISTOR		
	R4265	NRSA02J-562X	MG RESISTOR		
	R4341	NRSA02J-103X	MG RESISTOR		
	R4342	NRSA02J-103X	MG RESISTOR		
	R4343	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R5101	NRSA02J-223X	MG RESISTOR		
	R5102	NRSA02J-153X	MG RESISTOR		
	R5107	NRSA02J-104X	MG RESISTOR		
	R5201	NRSA02J-223X	MG RESISTOR		
	R5202	NRSA02J-153X	MG RESISTOR		
	R5207	NRSA02J-104X	MG RESISTOR		
	R5301	NRSA02J-104X	MG RESISTOR		
	R5302	NRSA02J-333X	MG RESISTOR		
	R5303	NRSA02J-104X	MG RESISTOR		
	R5305	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R5308	NRSA02J-154X	MG RESISTOR		
	R6101	NRSA02J-562X	MG RESISTOR		
	R6102	NRSA02J-221X	MG RESISTOR		
	R6103	NRSA02J-103X	MG RESISTOR		
⚠	R6104	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R6105	NRSA02J-472X	MG RESISTOR		
	R6201	NRSA02J-562X	MG RESISTOR		
	R6202	NRSA02J-221X	MG RESISTOR		
	R6203	NRSA02J-103X	MG RESISTOR		
⚠	R6204	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R6205	NRSA02J-472X	MG RESISTOR		
	R6301	NRSA02J-332X	MG RESISTOR		
	R6302	NRSA02J-222X	MG RESISTOR		
	R6303	NRSA02J-562X	MG RESISTOR		
	R6304	NRSA02J-104X	MG RESISTOR		
	R6305	NRSA02J-122X	MG RESISTOR		
	R6401	NRSA02J-153X	MG RESISTOR		
	R6402	NRSA02J-102X	MG RESISTOR		
	R6403	NRSA02J-473X	MG RESISTOR		
	R6404	NRSA02J-391X	MG RESISTOR		
	R6405	NRSA02J-473X	MG RESISTOR		
	R6406	NRSA02J-391X	MG RESISTOR		
	R6407	NRSA02J-224X	MG RESISTOR		
⚠	R6408	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
⚠	R6409	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	

⚠	Item	Parts number	Parts name	Remarks	Area
⚠	R6410	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
⚠	R6411	QRE141J-2R2Y	C RESISTOR	2.2 5% 1/4W	
	R7301	NRSA02J-473X	MG RESISTOR		
	R7303	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7305	NRSA02J-224X	MG RESISTOR		
	R7307	NRSA02J-394X	MG RESISTOR		
	R7308	NRSA02J-104X	MG RESISTOR		
	R7309	NRSA02J-333X	MG RESISTOR		
	R7310	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7311	NRSA02J-184X	MG RESISTOR		
	R7312	NRSA02J-104X	MG RESISTOR		
	R7313	NRSA02J-104X	MG RESISTOR		
	R7314	NRSA02J-273X	MG RESISTOR		
	R7316	NRSA02J-104X	MG RESISTOR		
	R7317	NRSA02J-104X	MG RESISTOR		
	R7318	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7319	NRSA02J-202X	MG RESISTOR		
	R7320	NRSA02J-221X	MG RESISTOR		
	R7321	NRSA02J-224X	MG RESISTOR		
	R7322	NRSA02J-563X	MG RESISTOR		
	R7323	NRSA02J-102X	MG RESISTOR		
	R7324	NRSA02J-103X	MG RESISTOR		
	R7325	NRSA02J-103X	MG RESISTOR		
	R7326	NRSA02J-153X	MG RESISTOR		
	R7327	NRSA02J-105X	MG RESISTOR		
	R7328	NRSA02J-332X	MG RESISTOR		
	R7329	NRSA02J-102X	MG RESISTOR		
	R7330	NRSA02J-103X	MG RESISTOR		
	R7331	NRSA02J-472X	MG RESISTOR		
	R7332	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R7333	NRSA02J-153X	MG RESISTOR		
	R7334	NRSA02J-243X	MG RESISTOR		
	R7336	NRSA02J-243X	MG RESISTOR		
	R7338	NRSA02J-124X	MG RESISTOR		
	R7342	NRSA02J-183X	MG RESISTOR		
	R7344	NRSA02J-104X	MG RESISTOR		
	R7351	NRSA02J-153X	MG RESISTOR		
	R7352	NRSA02J-102X	MG RESISTOR		
	R7353	NRSA02J-123X	MG RESISTOR		
	R7354	NRSA02J-153X	MG RESISTOR		
	R7355	NRSA02J-102X	MG RESISTOR		
	R7356	NRSA02J-182X	MG RESISTOR		
	R7357	NRSA02J-102X	MG RESISTOR		
	R7358	NRSA02J-472X	MG RESISTOR		
	R7359	NRSA02J-102X	MG RESISTOR		
	R7360	NRSA02J-153X	MG RESISTOR		
	R8101	NRSA02J-332X	MG RESISTOR		
	R8102	NRSA02J-272X	MG RESISTOR		
	R8103	NRSA02J-392X	MG RESISTOR		
	R8104	NRSA02J-104X	MG RESISTOR		
	R8105	NRSA02J-332X	MG RESISTOR		
	R8106	NRSA02J-123X	MG RESISTOR		
	R8107	NRSA02J-103X	MG RESISTOR		
	R8111	NRSA02J-224X	MG RESISTOR		
	R8201	NRSA02J-332X	MG RESISTOR		
	R8202	NRSA02J-272X	MG RESISTOR		
	R8203	NRSA02J-392X	MG RESISTOR		
	R8204	NRSA02J-104X	MG RESISTOR		
	R8205	NRSA02J-332X	MG RESISTOR		
	R8206	NRSA02J-123X	MG RESISTOR		
	R8207	NRSA02J-103X	MG RESISTOR		
	R8211	NRSA02J-224X	MG RESISTOR		
	R8301	NRSA02J-102X	MG RESISTOR		
	R8302	NRSA02J-474X	MG RESISTOR		

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

⚠	Item	Parts number	Parts name	Remarks	Area
	R8321	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R8327	NRSA02J-101X	MG RESISTOR		
	S1901	QSW0555-001	VOL.SELECTOR		U,US
⚠	Z1901	QNG0020-001Z	FUSE CLIP		
⚠	Z1902	QNG0020-001Z	FUSE CLIP	FOR F1902	
⚠	Z1903	QNG0020-001Z	FUSE CLIP	FOR F1903	
⚠	Z1911	QNG0020-001Z	FUSE CLIP		
⚠	Z1912	QNG0020-001Z	FUSE CLIP		
⚠	Z1913	QNG0020-001Z	FUSE CLIP		

■ **Electrical parts list (Micon board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 604	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 605	QETN1HM-106Z	E CAPACITOR	10MF 20% 50V	
	C 606	NCB21HK-102X	C CAPACITOR		
	C 607	NCB21HK-102X	C CAPACITOR		
	C 608	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 609	NCS21HJ-101X	C CAPACITOR		
	C 610	QFLM1HJ-273Z	M CAPACITOR	.027MF 5% 50V	
	C 611	NCB21HK-472X	C CAPACITOR		
	C 612	NCB21HK-103X	C CAPACITOR		
	C 613	NCS21HJ-331X	C CAPACITOR		
	C 614	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 615	NCB21HK-223X	C CAPACITOR		
	C 616	NCB21HK-223X	C CAPACITOR		
	C 617	NCB21HK-223X	C CAPACITOR		
	C 618	NCB21HK-222X	C CAPACITOR		
	C 619	NCS21HJ-271X	C CAPACITOR		
	C 620	NCS21HJ-181X	C CAPACITOR		
	C 622	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C 623	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 628	QDX31EM-473Z	C CAPACITOR		
	C 629	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 631	QETN1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C 632	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 640	NCB21HK-822X	C CAPACITOR		
	C 641	NCB21HK-223X	C CAPACITOR		
	C 651	NCS21HJ-270X	C CAPACITOR		
	C 652	NCS21HJ-270X	C CAPACITOR		
	C 653	NCB21HK-223X	C CAPACITOR		
	C 655	QDX31EM-473Z	C CAPACITOR		
	C 661	NCB21HK-471X	C CAPACITOR		
	C 662	NCB21HK-223X	C CAPACITOR		
	C 663	QFLM1HJ-223Z	M CAPACITOR	.022MF 5% 50V	
	C 664	NCB21HK-223X	C CAPACITOR		
	C 665	QFVF1HJ-104Z	TF CAPACITOR	.10MF 5% 50V	
	C 666	NCB21HK-102X	C CAPACITOR		
	C 671	NCB21HK-222X	C CAPACITOR		
	C 672	NCB21HK-222X	C CAPACITOR		
	C 673	QTE1A28-227Z	E CAPACITOR		
	C 674	NCB21HK-223X	C CAPACITOR		
	C 675	NCB21HK-102X	C CAPACITOR		
	C 691	NCS21HJ-151X	C CAPACITOR	DENGEN NOISE	
	C 692	NCS21HJ-151X	C CAPACITOR	DENGEN NOISE	
	C 693	NCS21HJ-151X	C CAPACITOR	DENGEN NOISE	
	C 694	NCS21HJ-151X	C CAPACITOR	DENGEN NOISE	
	C 696	NCS21HJ-101X	C CAPACITOR		
	C 697	NCS21HJ-101X	C CAPACITOR		
	C 698	NCS21HJ-101X	C CAPACITOR		
	C 699	NCS21HJ-101X	C CAPACITOR		
	CN421	QGF1205F1-17	CONNECTOR	TO MAIN	
	CN422	QGF1205F1-17	CONNECTOR	TO MAIN	
	CN424	QGA2501F1-05	CONNECTOR	TO FUNC	
	CN601	QGF1023F1-15	15PIN CONNECTOR	TO RF	
	CN602	QGA2001C1-06	6P PLUG ASSY		
	CN911	QGF1205F1-14	CONNECTOR	TO MAIN SW	
	CN912	QGA2501C1-02	2P CONNECTOR	TO CD DOOR	
	CN915	QGA2501C1-03	3P CONNECTOR		
	CN916	QGF1205F1-09	CONNECTOR	TO SLC	
	CN921	QGF1205F1-14	CONNECTOR	TO MICON	
	CN923	QGA2501F1-03	CONNECTOR		
	CN924	VMC0041-006	CONNECTOR	TO MICON	
	CN951	QGB1214K1-06S	CONNECTOR		
	CN961	QGB1214J1-06S	CONNECTOR		
	C2101	QEKC1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C2102	NCB21HK-561X	C CAPACITOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	C2103	NCB21HK-561X	C CAPACITOR		
	C2104	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C2105	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C2106	NCB21HK-472X	C CAPACITOR		
	C2107	NCB21HK-472X	C CAPACITOR		
	C2108	NCF21HZ-104X	C CAPACITOR		
	C2201	QEKC1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C2202	NCB21HK-561X	C CAPACITOR		
	C2203	NCB21HK-561X	C CAPACITOR		
	C2204	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C2205	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C2206	NCB21HK-472X	C CAPACITOR		
	C2207	NCB21HK-472X	C CAPACITOR		
	C2208	NCF21HZ-104X	C CAPACITOR		
	C2301	QEKC1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C2302	QEKC1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C2303	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C2304	NCF21HZ-104X	C CAPACITOR		
	C2307	NCF21HZ-104X	C CAPACITOR		
	C2308	NCF21HZ-104X	C CAPACITOR		
	C2309	NCF21HZ-104X	C CAPACITOR		
	C2311	NCB21HK-103X	C CAPACITOR		
	C2501	NCB21HK-103X	C CAPACITOR		
	C2502	NCB21HK-103X	C CAPACITOR		
	C2503	NCB21HK-103X	C CAPACITOR		
	C2504	NCB21HK-103X	C CAPACITOR		
	C2505	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C2506	NCB21HK-103X	C CAPACITOR		
	C2507	NCB21HK-103X	C CAPACITOR		
	C6150	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C6151	NCS21HJ-151X	C CAPACITOR		
	C6152	NCS21HJ-151X	C CAPACITOR		
	C6153	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C6250	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C6251	NCS21HJ-151X	C CAPACITOR		
	C6252	NCS21HJ-151X	C CAPACITOR		
	C6253	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C6350	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C6351	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C6352	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C9001	NCB21HK-102X	C CAPACITOR		
	C9002	NCB21HK-102X	C CAPACITOR		
	C9003	NCB21HK-102X	C CAPACITOR		
	C9004	NCB21HK-102X	C CAPACITOR		
	C9005	NCB21HK-103X	C CAPACITOR		
	C9006	NCS21HJ-680X	C CAPACITOR		
	C9007	NCS21HJ-151X	C CAPACITOR		
	C9008	NCS21HJ-101X	C CAPACITOR		
	C9009	NCS21HJ-151X	C CAPACITOR		
	C9010	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C9011	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C9012	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C9013	NCS21HJ-151X	C CAPACITOR		
	C9014	NCS21HJ-151X	C CAPACITOR		
	C9015	NCS21HJ-151X	C CAPACITOR		
	C9016	NCS21HJ-151X	C CAPACITOR		
	C9017	NCB21HK-102X	C CAPACITOR		
	C9018	NCS21HJ-151X	C CAPACITOR		
	C9019	NCS21HJ-151X	C CAPACITOR		
	C9020	NCS21HJ-151X	C CAPACITOR		
	C9021	NCS21HJ-151X	C CAPACITOR		
	C9022	NCB21HK-103X	C CAPACITOR		
	C9023	QEK41CM-476	E CAPACITOR	47MF 20% 16V	
	C9024	NCB21HK-103X	C CAPACITOR		

■ Electrical parts list (Micon board)

Block No. 02

⚠	Item	Parts number	Parts name	Remarks	Area
	C9025	NCB21HK-103X	C CAPACITOR		
	C9026	QEKC1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C9027	NCB21HK-103X	C CAPACITOR		
	C9028	QEKC1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C9029	NCS21HJ-220X	C CAPACITOR		
	C9030	NCS21HJ-560X	C CAPACITOR		
	C9031	NCS21HJ-360X	C CAPACITOR		
	C9032	NCS21HJ-360X	C CAPACITOR		
	C9033	NCS21HJ-560X	C CAPACITOR		
	C9034	NCS21HJ-151X	C CAPACITOR		
	C9035	NCS21HJ-220X	C CAPACITOR		
	C9036	NCB21HK-102X	C CAPACITOR		
	C9501	QER61HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C9502	NCS21HJ-470X	C CAPACITOR		
	C9503	QER61EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C9504	QER61CM-226Z	E CAPACITOR	22MF 20% 16V	
	C9505	QER61HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C9506	QER61HM-224Z	E CAPACITOR	.22MF 20% 50V	
	C9507	QER61HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C9508	QER61CM-336Z	E CAPACITOR	33MF 20% 16V	
	C9509	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C9510	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9601	QER61HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C9602	NCS21HJ-331X	C CAPACITOR		
	C9603	QER61HM-334Z	E CAPACITOR	.33MF 20% 50V	
	C9604	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9605	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C9606	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9607	QER41CM-106	E CAPACITOR	10MF 20% 16V	
	C9608	NCS21HJ-680X	C CAPACITOR		
	C9609	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9610	QER61HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C9611	QER61HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C9612	NCS21HJ-221X	C CAPACITOR		
	C9613	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9614	QER41HM-105	E CAPACITOR	1.0MF 20% 50V	
	C9615	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C9616	QER41CM-476	E CAPACITOR	47MF 20% 16V	
	C9617	NCB21EK-683X	C CAPACITOR		
	D 661	1SS133-T2	SI DIODE		
	D2101	1SS133-T2	SI DIODE		
	D2110	MA700A-T2	S.B.DIODE		
	D2201	1SS133-T2	SI DIODE		
	D2502	SLR-342VR-T15	LED	STAND-BY LED	
	D2503	1SS133-T2	SI DIODE		
	D4331	MTZJ6.2A-T2	Z.DIODE		
	D4332	1SS133-T2	SI DIODE		
	D4333	1SS133-T2	SI DIODE		
	D6351	1SS133-T2	SI DIODE		
	D6352	MTZJ3.6A-T2	ZENER DIODE		
	D6353	1SS133-T2	SI DIODE		
	D6354	MTZJ4.7A-T2	Z DIODE		
	D9001	1SS133-T2	SI DIODE		
	D9002	MTZJ5.1C-T2	ZENER DIODE		
	D9003	MA700A-T2	S.B.DIODE		
	D9004	1SS133-T2	SI DIODE		
	D9501	1SS133-T2	SI DIODE		
	D9502	1SS133-T2	SI DIODE		
	D9503	1SS133-T2	SI DIODE		
	D9601	1SS133-T2	SI DIODE		
	D9602	1SS133-T2	SI DIODE		
	D9603	1SS133-T2	SI DIODE		
	D9604	1SS133-T2	SI DIODE		
	D9605	1SS133-T2	SI DIODE		

⚠	Item	Parts number	Parts name	Remarks	Area
	FW420	QJK002-071402	SIN CR C-B WIRE	AUX/HP - MAIN	
	FW429	QJK002-061401	SIN CR C-B WIRE	AUX/HP - MAIN	
	FW913	QJK025-032403	SIN CR C-B WIRE	MICOM - PAD	
	FW914	QJK025-063001	SIN CR C-B WIRE	MICOM - RHYTHM	
	FW922	QJK002-022202	SIN CR C-B WIRE	MICOM - CD DOO	
	FW925	QJK002-030906	SIN CR C-B WIRE		
	IC231	M65575-0001FP-X	IC		
	IC232	BA15218F-XE	IC		
	IC251	RPM6938-SV4	IC	REMOCON	
	IC601	AN8806SB-W	IC	RF AMP	
	IC602	BA6897FP-W	IC	DRIVER	
	IC603	MN35510	IC	1CHIP PROCESSER	
	IC615	BA15218F-XE	IC		
	IC901	MN101C38CDS	IC	MICON LSI	
	IC902	IC-PST9131-T	IC	RESET IC	
	IC951	BA15218F-XE	IC		
	IC961	BA15218F-XE	IC		
	IC962	BA15218F-XE	IC		
	IH601	VYH7237-001	IC HOLDER		
	IH602	VYH7237-003	IC HOLDER		
	IH603	VYH7237-003	IC HOLDER		
	IH901	VYH7237-002	IC HOLDER		
	J4301	QNS0047-001	JACK		
	J6301	QNS0032-001	JACK		
	J9501	QNS0091-001	JACK	MIC JACK	
	J9601	QNS0091-001	JACK	GUITARJACK	
	K 696	QQR0779-001Z	INDUCTOR	(B1181)	
	K2301	QQR0779-001Z	INDUCTOR		
	K4331	QQR0779-001Z	INDUCTOR		
	K4332	QQR0779-001Z	INDUCTOR		
	K6351	QQR0779-001Z	INDUCTOR	FOR EMC	
	K9001	QQR0779-001Z	INDUCTOR		
	K9002	QQR0779-001Z	INDUCTOR	CD GND	
	K9003	QQR0779-001Z	INDUCTOR	CD GND	
	K9004	QQR0779-001Z	INDUCTOR	CD GND	
	K9501	QQR0779-001Z	INDUCTOR		
	K9601	QQR0779-001Z	INDUCTOR		
	L2301	QQL231K-4R7Y	INDUCTOR		
	L9001	QQL01BK-100Z	INDUCTOR		
	L9002	QQL01BK-100Z	INDUCTOR		
	L9003	QQL01BK-100Z	INDUCTOR		
	PL 1	QLL0052-002	P.LAMP		
	Q 601	2SA952/LK/-T	TRANSISTOR		
	Q 631	2SA952/LK/-T	TRANSISTOR		
	Q2101	DTC114TKA-X	TRANSISTOR		
	Q2102	DTA114EKA-X	DIGITAL.TRANSIS		
	Q2201	DTC114TKA-X	TRANSISTOR		
	Q2202	DTA114EKA-X	DIGITAL.TRANSIS		
	Q2301	2SC2785FF-T	TRANSISTOR		
	Q2302	2SA1037AK/RS/-X	TRANSISTOR		
	Q2501	DTA124XKA-X	D.TRANSISTOR	STAND-BY LED	
	Q4131	2SD2114K/VW/-X	TRANSISTOR		
	Q4231	2SD2114K/VW/-X	TRANSISTOR		
	Q4331	DTA144EKA-X	TRANSISTOR		
	Q6150	2SD596/4/-X	TRANSISTOR		
	Q6151	2SD596/4/-X	TRANSISTOR		
	Q6250	2SD596/4/-X	TRANSISTOR		
	Q6251	2SD596/4/-X	TRANSISTOR		
	Q6350	DTC114EKA-X	TRANSISTOR		
	Q6351	DTA144EKA-X	TRANSISTOR		
	Q9001	2SC2668/O/-T	TRANSISTOR	OSCILATOR	
	Q9002	2SC2668/O/-T	TRANSISTOR	OSCILATOR	
	Q9003	2SC2412K/R/-X	TRANSISTOR		
	Q9004	2SB624/4/-X	TRANSISTOR	LAMP CON.	

■ Electrical parts list (Micon board)

Block No. 02

⚠	Item	Parts number	Parts name	Remarks	Area
	Q9005	2SC2412K/R/-X	TRANSISTOR	AC/DC	
	Q9006	2SC2412K/R/-X	TRANSISTOR	LAMP CON.	
	Q9009	2SC2412K/R/-X	TRANSISTOR		
	Q9010	2SA1037AK/RS/-X	TRANSISTOR		
	Q9501	DTC114TKA-X	TRANSISTOR		
	Q9502	2SA1037AK/RS/-X	TRANSISTOR		
	Q9503	2SC2412K/R/-X	TRANSISTOR		
	Q9504	2SC2412K/R/-X	TRANSISTOR		
	Q9601	2SC2412K/R/-X	TRANSISTOR		
	Q9602	2SC2412K/R/-X	TRANSISTOR		
	Q9603	DTC114TKA-X	TRANSISTOR		
	Q9604	2SA1037AK/RS/-X	TRANSISTOR		
	R 601	NRSA02J-113X	MG RESISTOR		
	R 603	NRSA02J-125X	MG RESISTOR		
	R 605	NRSA02J-274X	MG RESISTOR		
	R 606	NRSA02J-154X	MG RESISTOR		
	R 607	NRSA02J-273X	MG RESISTOR		
	R 609	NRSA02J-104X	MG RESISTOR		
	R 610	NRSA02J-154X	MG RESISTOR		
	R 612	NRSA02J-102X	MG RESISTOR		
	R 613	NRSA02J-121X	MG RESISTOR		
	R 614	NRSA02J-100X	MG RESISTOR		
	R 615	NRSA02J-120X	MG RESISTOR		
	R 616	NRSA02J-910X	MG RESISTOR		
	R 621	NRSA02J-330X	MG RESISTOR		
	R 622	NRSA02J-330X	MG RESISTOR		
	R 623	NRSA02J-330X	MG RESISTOR		
	R 631	NRSA02J-331X	MG RESISTOR		
	R 632	NRSA02J-101X	MG RESISTOR		
	R 633	NRSA02J-273X	MG RESISTOR		
	R 641	NRSA02J-563X	MG RESISTOR		
	R 642	NRSA02J-123X	MG RESISTOR		
	R 643	NRSA02J-822X	MG RESISTOR		
	R 644	NRSA02J-223X	MG RESISTOR		
	R 645	NRSA02J-223X	MG RESISTOR		
	R 646	NRSA02J-222X	MG RESISTOR		
	R 647	NRSA02J-472X	MG RESISTOR		
	R 651	NRSA02J-102X	MG RESISTOR		
	R 652	NRSA02J-102X	MG RESISTOR		
	R 653	NRSA02J-102X	MG RESISTOR		
	R 654	NRSA02J-102X	MG RESISTOR		
	R 655	NRSA02J-471X	MG RESISTOR		
	R 659	NRSA02J-221X	MG RESISTOR		
	R 661	NRSA02J-683X	MG RESISTOR		
	R 662	NRSA02J-155X	MG RESISTOR		
	R 663	NRSA02J-124X	MG RESISTOR		
	R 664	NRSA02J-471X	MG RESISTOR		
	R 666	NRSA02J-220X	MG RESISTOR		
	R 671	NRSA02J-103X	MG RESISTOR		
	R 672	NRSA02J-103X	MG RESISTOR		
	R 696	NRSA02J-222X	MG RESISTOR		
	R 697	NRSA02J-474X	MG RESISTOR		
	R2101	NRSA02J-103X	MG RESISTOR		
	R2102	NRSA02J-333X	MG RESISTOR		
	R2103	NRSA02J-393X	MG RESISTOR		
	R2104	NRSA02J-393X	MG RESISTOR		
	R2105	NRSA02J-222X	MG RESISTOR		
	R2106	NRSA02J-222X	MG RESISTOR		
	R2107	NRSA02J-183X	MG RESISTOR		
	R2108	NRSA02J-183X	MG RESISTOR		
	R2201	NRSA02J-103X	MG RESISTOR		
	R2202	NRSA02J-333X	MG RESISTOR		
	R2203	NRSA02J-393X	MG RESISTOR		
	R2204	NRSA02J-393X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R2205	NRSA02J-222X	MG RESISTOR		
	R2206	NRSA02J-222X	MG RESISTOR		
	R2207	NRSA02J-183X	MG RESISTOR		
	R2208	NRSA02J-183X	MG RESISTOR		
	R2301	NRSA02J-154X	MG RESISTOR		
	R2302	NRSA02J-154X	MG RESISTOR		
	R2303	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R2304	NRSA02J-222X	MG RESISTOR		
	R2305	NRSA02J-822X	MG RESISTOR		
	R2306	NRSA02J-221X	MG RESISTOR		
	R2308	NRSA02J-105X	MG RESISTOR		
	R2310	NRSA02J-104X	MG RESISTOR		
	R2500	NRSA02J-101X	MG RESISTOR		
	R2501	NRSA02J-101X	MG RESISTOR		
	R2502	NRSA02J-121X	MG RESISTOR		
	R2503	NRSA02J-181X	MG RESISTOR		
	R2504	NRSA02J-221X	MG RESISTOR		
	R2505	NRSA02J-271X	MG RESISTOR		
	R2506	NRSA02J-391X	MG RESISTOR		
	R2507	NRSA02J-561X	MG RESISTOR		
	R2508	NRSA02J-102X	MG RESISTOR		
	R2509	NRSA02J-182X	MG RESISTOR		
	R2510	NRSA02J-512X	MG RESISTOR		
	R2511	NRSA02J-101X	MG RESISTOR		
	R2512	NRSA02J-121X	MG RESISTOR		
	R2513	NRSA02J-181X	MG RESISTOR		
	R2514	NRSA02J-221X	MG RESISTOR		
	R2515	NRSA02J-101X	MG RESISTOR		
	R2521	NRSA02J-271X	MG RESISTOR		
	R2522	NRSA02J-391X	MG RESISTOR		
	R2523	NRSA02J-561X	MG RESISTOR		
	R2524	NRSA02J-102X	MG RESISTOR		
	R2525	NRSA02J-362X	MG RESISTOR		
	R2534	NRSA02J-271X	MG RESISTOR		
	R4131	NRSA02J-124X	MG RESISTOR		
	R4132	NRSA02J-473X	MG RESISTOR		
	R4133	NRSA02J-222X	MG RESISTOR		
	R4231	NRSA02J-124X	MG RESISTOR		
	R4232	NRSA02J-473X	MG RESISTOR		
	R4233	NRSA02J-222X	MG RESISTOR		
	R6150	NRSA02J-223X	MG RESISTOR		
	R6151	NRSA02J-223X	MG RESISTOR		
	R6152	NRSA02J-102X	MG RESISTOR		
	R6153	NRSA02J-220X	MG RESISTOR		
	R6154	NRSA02J-222X	MG RESISTOR		
	R6155	NRSA02J-222X	MG RESISTOR		
	R6156	NRSA02J-472X	MG RESISTOR		
	R6157	NRSA02J-103X	MG RESISTOR		
	R6158	NRSA02J-153X	MG RESISTOR		
	R6159	NRSA02J-472X	MG RESISTOR		
	R6250	NRSA02J-223X	MG RESISTOR		
	R6251	NRSA02J-223X	MG RESISTOR		
	R6252	NRSA02J-102X	MG RESISTOR		
	R6253	NRSA02J-220X	MG RESISTOR		
	R6254	NRSA02J-222X	MG RESISTOR		
	R6255	NRSA02J-222X	MG RESISTOR		
	R6256	NRSA02J-472X	MG RESISTOR		
	R6257	NRSA02J-103X	MG RESISTOR		
	R6258	NRSA02J-153X	MG RESISTOR		
	R6259	NRSA02J-472X	MG RESISTOR		
	R6350	NRSA02J-121X	MG RESISTOR		
	R6351	NRSA02J-102X	MG RESISTOR		
	R6352	NRSA02J-121X	MG RESISTOR		
	R6353	NRSA02J-473X	MG RESISTOR		

■ Electrical parts list (Micon board)

Block No. 02

⚠	Item	Parts number	Parts name	Remarks	Area
	R6354	NRSA02J-472X	MG RESISTOR		
	R9001	NRSA02J-104X	MG RESISTOR		
	R9002	NRSA02J-104X	MG RESISTOR		
	R9003	NRSA02J-104X	MG RESISTOR		
	R9004	NRSA02J-393X	MG RESISTOR		
	R9005	NRSA02J-104X	MG RESISTOR		
	R9006	NRSA02J-224X	MG RESISTOR		
	R9007	NRSA02J-222X	MG RESISTOR		
	R9008	NRSA02J-363X	MG RESISTOR		EE
	R9008	NRSA02J-103X	MG RESISTOR		U,US
	R9008	NRSA02J-103X	MG RESISTOR		B,E,EN,EV
	R9009	NRSA02J-222X	MG RESISTOR		
	R9010	NRSA02J-222X	MG RESISTOR		
	R9011	NRSA02J-222X	MG RESISTOR		
	R9012	NRSA02J-102X	MG RESISTOR		
	R9013	NRSA02J-222X	MG RESISTOR		
	R9014	NRSA02J-222X	MG RESISTOR		
	R9015	NRSA02J-102X	MG RESISTOR		
	R9016	NRSA02J-222X	MG RESISTOR		
	R9017	NRSA02J-102X	MG RESISTOR		
	R9018	NRSA02J-222X	MG RESISTOR		
	R9019	NRSA02J-102X	MG RESISTOR		
	R9020	NRSA02J-682X	MG RESISTOR		
	R9021	NRSA02J-183X	MG RESISTOR		U,US
	R9021	NRSA02J-103X	MG RESISTOR		EE
	R9022	NRSA02J-103X	MG RESISTOR		
	R9024	NRSA02J-222X	MG RESISTOR		
	R9025	NRSA02J-822X	MG RESISTOR		
	R9026	NRSA02J-103X	MG RESISTOR		
	R9027	NRSA02J-222X	MG RESISTOR		
	R9028	NRSA02J-822X	MG RESISTOR		
	R9029	NRSA02J-912X	MG RESISTOR		
	R9030	NRSA02J-222X	MG RESISTOR		
	R9031	NRSA02J-102X	MG RESISTOR		
	R9032	NRSA02J-102X	MG RESISTOR		
	R9033	NRSA02J-102X	MG RESISTOR		
	R9034	NRSA02J-103X	MG RESISTOR		
	R9035	NRSA02J-103X	MG RESISTOR		
	R9036	NRSA02J-222X	MG RESISTOR		
	R9037	NRSA02J-222X	MG RESISTOR		
	R9038	NRSA02J-682X	MG RESISTOR		
	R9039	NRSA02J-103X	MG RESISTOR		
	R9040	NRSA02J-103X	MG RESISTOR		
	R9041	NRSA02J-243X	MG RESISTOR		
	R9042	NRSA02J-243X	MG RESISTOR		
	R9043	NRSA02J-103X	MG RESISTOR		
	R9044	NRSA02J-103X	MG RESISTOR		
	R9045	NRSA02J-103X	MG RESISTOR		
	R9046	NRSA02J-222X	MG RESISTOR		
	R9047	NRSA02J-473X	MG RESISTOR		
	R9048	NRSA02J-222X	MG RESISTOR		
	R9049	NRSA02J-473X	MG RESISTOR		
	R9050	NRSA02J-222X	MG RESISTOR		
	R9051	NRSA02J-103X	MG RESISTOR		
	R9052	NRSA02J-102X	MG RESISTOR		
	R9053	NRSA02J-102X	MG RESISTOR		
	R9054	NRSA02J-102X	MG RESISTOR		
	R9055	NRSA02J-102X	MG RESISTOR		
	R9056	NRSA02J-102X	MG RESISTOR		
	R9057	NRSA02J-222X	MG RESISTOR		
	R9058	NRSA02J-472X	MG RESISTOR		
	R9059	NRSA02J-912X	MG RESISTOR		
	R9060	NRSA02J-102X	MG RESISTOR		
	R9061	NRSA02J-222X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R9062	NRSA02J-222X	MG RESISTOR		
	R9063	NRSA02J-473X	MG RESISTOR		
	R9064	NRSA02J-473X	MG RESISTOR		
	R9065	NRSA02J-103X	MG RESISTOR		
	R9066	NRSA02J-103X	MG RESISTOR		
	R9067	NRSA02J-104X	MG RESISTOR		
	R9068	NRSA02J-102X	MG RESISTOR		
	R9069	NRSA02J-222X	MG RESISTOR		
	R9070	NRSA02J-472X	MG RESISTOR		
	R9071	NRSA02J-472X	MG RESISTOR		
	R9072	NRSA02J-472X	MG RESISTOR		
	R9073	NRSA02J-102X	MG RESISTOR		
	R9074	NRSA02J-103X	MG RESISTOR		
	R9075	NRSA02J-102X	MG RESISTOR		
	R9076	NRSA02J-103X	MG RESISTOR		
	R9077	NRSA02J-103X	MG RESISTOR		
	R9078	NRSA02J-103X	MG RESISTOR		
	R9079	NRSA02J-562X	MG RESISTOR		
	R9080	NRSA02J-222X	MG RESISTOR		
	R9081	NRSA02J-102X	MG RESISTOR		
	R9082	NRSA02J-102X	MG RESISTOR		
	R9083	NRSA02J-472X	MG RESISTOR		
	R9084	NRSA02J-472X	MG RESISTOR		
	R9085	NRSA02J-472X	MG RESISTOR		
	R9086	NRSA02J-472X	MG RESISTOR		
	R9087	NRSA02J-472X	MG RESISTOR		
	R9088	NRSA02J-103X	MG RESISTOR		
	R9089	NRSA02J-104X	MG RESISTOR		
	R9090	NRSA02J-103X	MG RESISTOR		
	R9091	NRSA02J-102X	MG RESISTOR		
	R9092	NRSA02J-102X	MG RESISTOR		
	R9093	NRSA02J-102X	MG RESISTOR		
	R9094	NRSA02J-102X	MG RESISTOR		
	R9095	NRSA02J-472X	MG RESISTOR		
	R9098	NRSA02J-333X	MG RESISTOR		
	R9099	NRSA02J-473X	MG RESISTOR		
	R9100	NRSA02J-104X	MG RESISTOR		
	R9101	NRSA02J-104X	MG RESISTOR		
	R9102	NRSA02J-103X	MG RESISTOR		
	R9103	NRSA02J-222X	MG RESISTOR		
	R9108	NRSA02J-563X	MG RESISTOR		
	R9109	NRSA02J-473X	MG RESISTOR		
	R9110	NRSA02J-473X	MG RESISTOR		
	R9111	NRSA02J-473X	MG RESISTOR		
	R9112	NRSA02J-472X	MG RESISTOR		
	R9501	NRSA02J-104X	MG RESISTOR		
	R9502	NRSA02J-102X	MG RESISTOR		
	R9503	NRSA02J-103X	MG RESISTOR		
	R9504	NRSA02J-564X	MG RESISTOR		
	R9505	NRSA02J-222X	MG RESISTOR		
	R9506	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R9507	NRSA02J-103X	MG RESISTOR		
	R9508	NRSA02J-102X	MG RESISTOR		
	R9509	NRSA02J-224X	MG RESISTOR		
	R9510	NRSA02J-103X	MG RESISTOR		
	R9511	NRSA02J-473X	MG RESISTOR		
	R9512	NRSA02J-473X	MG RESISTOR		
	R9513	NRSA02J-102X	MG RESISTOR		
	R9514	NRSA02J-103X	MG RESISTOR		
	R9515	NRSA02J-154X	MG RESISTOR		
	R9516	NRSA02J-154X	MG RESISTOR		
	R9601	NRSA02J-184X	MG RESISTOR		
	R9602	NRSA02J-823X	MG RESISTOR		
	R9603	NRSA02J-393X	MG RESISTOR		

■ **Electrical parts list (Micon board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	R9604	NRSA02J-333X	MG RESISTOR		
	R9605	NRSA02J-563X	MG RESISTOR		
	R9606	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R9607	NRSA02J-182X	MG RESISTOR		
	R9608	NRSA02J-273X	MG RESISTOR		
	R9609	NRSA02J-224X	MG RESISTOR		
	R9610	NRSA02J-101X	MG RESISTOR		
	R9611	NRSA02J-104X	MG RESISTOR		
	R9612	NRSA02J-474X	MG RESISTOR		
	R9613	NRSA02J-222X	MG RESISTOR		
	R9614	NRSA02J-222X	MG RESISTOR		
	R9615	NRSA02J-222X	MG RESISTOR		
	R9616	NRSA02J-222X	MG RESISTOR		
	R9617	NRSA02J-103X	MG RESISTOR		
	R9618	NRSA02J-103X	MG RESISTOR		
	R9619	NRSA02J-122X	MG RESISTOR		
	R9620	NRSA02J-473X	MG RESISTOR		
	R9621	NRSA02J-563X	MG RESISTOR		
	R9622	NRSA02J-223X	MG RESISTOR		
	R9623	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R9624	NRSA02J-473X	MG RESISTOR		
	R9625	NRSA02J-473X	MG RESISTOR		
	R9626	NRSA02J-683X	MG RESISTOR		
	R9627	NRSA02J-683X	MG RESISTOR		
	R9628	NRSA02J-393X	MG RESISTOR		
	S2501	QSW0622-001Z	TACT SWITCH	SOUND	
	S2502	QSW0622-001Z	TACT SWITCH	PRESET	
	S2503	QSW0622-001Z	TACT SWITCH	REC	
	S2504	QSW0622-001Z	TACT SWITCH	CD	
	S2505	QSW0622-001Z	TACT SWITCH	TAPE	
	S2506	QSW0622-001Z	TACT SWITCH	TUNER	
	S2507	QSW0622-001Z	TACT SWITCH	AUX	
	S2508	QSW0622-001Z	TACT SWITCH	REW	
	S2509	QSW0622-001Z	TACT SWITCH	STOP	
	S2510	QSW0622-001Z	TACT SWITCH	FF	
	S2511	QSW0622-001Z	TACT SWITCH		
	S2520	QSW0622-001Z	TACT SWITCH	POWER	
	S2521	QSW0622-001Z	TACT SWITCH		
	S2522	QSW0622-001Z	TACT SWITCH		
	S2523	QSW0622-001Z	TACT SWITCH		
	S2524	QSW0622-001Z	TACT SWITCH		
	S2525	QSW0622-001Z	TACT SWITCH		
	S2526	QSW0882-001Z	TACT SWITCH		
	S2527	QSW0622-001Z	TACT SWITCH		
	S2528	QSW0622-001Z	TACT SWITCH		
	S2529	QSW0622-001Z	TACT SWITCH		
	S2530	QSW0622-001Z	TACT SWITCH		
	S2531	QSW0122-001	PUSH SWITCH	CD DOOR	
	VR901	QSW0868-001	ROTARY ENCODER		
	VR902	QSW0868-001	ROTARY ENCODER		
	VR903	QSW0869-001	ROTARY ENCODER		
	VR951	QVQ0020-B14	V.RES	MIC VR	
	VR961	QVQ0020-B14	V.RES	GUITAR VR	
	X 651	QAX0369-001Z	CERA LOCK	16.9344MHZ	
	X9001	QAX0401-001	CRYSTAL		
	X9002	QAX0416-001Z	CERA LOCK		

■ Electrical parts list (Tuner board)

Block No. 03

⚠	Item	Parts number	Parts name	Remarks	Area
	C 3	QCSB1HK-5R6Y	C CAPACITOR	5.6PF 10% 50V	U,US
	C 3	QCSB1HK-5R6Y	C CAPACITOR	5.6PF 10% 50V	B,E,EN,EV
	C 6	QDYB1CM-103Y	C CAPACITOR		
	C 7	QDYB1CM-103Y	C CAPACITOR		
	C 9	QCSB1HJ-120Y	C CAPACITOR	12PF 5% 50V	U,US
	C 9	QCSB1HK-4R7Y	C CAPACITOR	4.7PF 10% 50V	EE
	C 9	QCSB1HJ-120Y	C CAPACITOR	12PF 5% 50V	B,E,EN,EV
	C 13	QDX31EM-223Z	C CAPACITOR		
	C 16	QDYB1CM-103Y	C CAPACITOR		
	C 17	QCSB1HJ-120Y	C CAPACITOR	12PF 5% 50V	U,US
	C 21	QDX31EM-473Z	C CAPACITOR		
	C 22	QFP31HJ-431Z	PP CAPACITOR	430PF 5% 50V	
	C 23	QDCB1HJ-120Y	C CAPACITOR		B,E,EE,EN,EV
	C 23	QDCB1HK-4R7Y	C CAPACITOR		U,US
	C 24	QCSB1HJ-620Y	C CAPACITOR	62PF 5% 50V	B,E,EE,EN,EV
	C 25	QDX31EM-473Z	C CAPACITOR		B,E,EE,EN,EV
	C 25	QDX31EM-223Z	C CAPACITOR		U,US
	C 26	QFLM1HJ-472Z	MYLAR CAPACITOR	4700PF 5% 50V	U,US
	C 26	QFP31HJ-181Z	PP CAPACITOR	180PF 5% 50V	B,E,EE,EN,EV
	C 27	QCS31HJ-101Z	C CAPACITOR	100PF 5% 50V	B,E,EE,EN,EV
	C 28	QCSB1HJ-150Y	C CAPACITOR	15PF 5% 50V	B,E,EE,EN,EV
	C 30	QCBB1HK-331Y	C CAPACITOR	330PF 10% 50V	
	C 31	QDGB1HK-102Y	C CAPACITOR		
	C 32	QDYB1CM-103Y	C CAPACITOR		
	C 33	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 35	QDX31EM-473Z	C CAPACITOR		
	C 36	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C 37	QDGB1HK-102Y	C CAPACITOR		
	C 40	QDYB1CM-103Y	C CAPACITOR		
	C 41	QETN1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
	C 42	QDX31EM-473Z	C CAPACITOR		
	C 43	QETN1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 44	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 45	QETN1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 47	QDX31EM-153Z	C CAPACITOR		
	C 48	QDX31EM-153Z	C CAPACITOR		
	C 49	QETN1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 50	QETN1HM-104Z	E CAPACITOR	.10MF 20% 50V	
	C 51	QCBB1HK-331Y	C CAPACITOR	330PF 10% 50V	
	C 52	QDGB1HK-102Y	C CAPACITOR		
	C 56	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	EE
	C 60	QDGB1HK-102Y	C CAPACITOR		
	C 61	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 62	QDCB1HJ-120Y	C CAPACITOR		
	C 63	QDGB1HK-102Y	C CAPACITOR		
	C 64	QDCB1HJ-120Y	C CAPACITOR		
	C 65	QDGB1HK-102Y	C CAPACITOR		
	C 69	QDXB1CM-222Y	C CAPACITOR		
	C 70	QETN1HM-225Z	E CAPACITOR	2.2MF 20% 50V	
	C 71	QETN1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 74	QCSB1HK-5R6Y	C CAPACITOR	5.6PF 10% 50V	U,US
	C 75	QCSB1HJ-120Y	C CAPACITOR	12PF 5% 50V	U,US
	C 76	QDX31EM-223Z	C CAPACITOR		U,US
	C 77	QDYB1CM-103Y	C CAPACITOR		
	C 81	QCSB1HJ-150Y	C CAPACITOR	15PF 5% 50V	B,E,EN,EV
	C 81	QCSB1HJ-220Y	C CAPACITOR	22PF 5% 50V	EE
	C 82	QCSB1HJ-150Y	C CAPACITOR	15PF 5% 50V	U,US
	C 83	QCSB1HJ-560Y	C CAPACITOR	56PF 5% 50V	U,US
	C 83	QCSB1HJ-680Y	AL E.CAPACITOR	68PF 5% 50V	EE
	C 83	QCSB1HJ-560Y	C CAPACITOR	56PF 5% 50V	B,E,EN,EV
	C 84	QCSB1HK-3R9Y	C CAPACITOR	3.9PF 10% 50V	EE
	C 85	QCSB1HJ-220Y	C CAPACITOR	22PF 5% 50V	EE
	C 85	QCSB1HJ-150Y	C CAPACITOR	15PF 5% 50V	U,US
	C 85	QCSB1HJ-150Y	C CAPACITOR	15PF 5% 50V	B,E,EN,EV

⚠	Item	Parts number	Parts name	Remarks	Area
	CF 1	QAX0403-001	C FILTER		
	CF 3	QAX0538-001Z	CRYSTAL		
	CN 1	QGF1205C1-09	CONNECTOR	TO MAIN	
	D 1	SVC203SPA-JV-T	VARI CAPA DIODE		B,E,EN,EV
	D 1	SVC203SPA-JV-T	VARI CAPA DIODE		U,US
	D 1	KV1370N-T	VARI CAPA DIODE		EE
	D 2	KV1370N-T	VARI CAPA DIODE		EE
	D 2	SVC203SPA-JV-T	VARI CAPA DIODE		U,US
	D 2	SVC203SPA-JV-T	VARI CAPA DIODE		B,E,EN,EV
	D 5	1SS133-T2	SI DIODE		
	D 6	1SS133-T2	SI DIODE		
	D 8	SVC344-T	VARI CAP		
	D 10	SVC344-T	VARI CAP		
	D 12	DSK10C-T1	DIODE		
	D 13	1SS133-T2	SI DIODE		
	IC 1	TA2104AN	IC		
	IC 2	LC72136N	IC		
	L 1	QQR0772-001	FM COIL		U,US
	L 1	QQR0773-001	FM COIL		EE
	L 1	QQR0772-001	FM COIL		B,E,EN,EV
	L 2	QQR0769-001	RF COIL		B,E,EN,EV
	L 2	QQR0781-001	RF COIL		EE
	L 2	QQR0769-001	RF COIL		U,US
	L 3	QQR0770-001	BAR ANTENA	MW RF	U,US
	L 3	QQR0771-001	BAR ANTENA	MW RF	B,E,EN,EE,EV
	L 4	QQR0723-001	OSC COIL	MW OSC	
	L 6	QQR0774-001	OSC COIL(LW)		B,E,EE,EN,EV
	L 6	QQR0775-001	OSC COIL(LW)		U,US
	L 7	QQL231K-221Y	INDUCTOR		
	L 10	QQL231K-4R7Y	INDUCTOR		
	L 12	QQR0756-001	INDUCTOR		
	L 13	QQR0874-001	INDUCTOR		U,US
	Q 1	2SC2668/O/-T	TRANSISTOR		
	Q 2	2SC2668/O/-T	TRANSISTOR		B,E,EE,EN,EV
	Q 3	2SC2668/O/-T	TRANSISTOR		
	Q 4	2SA1175/HFE/-T	TRANSISTOR		
	Q 5	2SC2668/O/-T	TRANSISTOR		
	Q 6	2SC2668/O/-T	TRANSISTOR		
	Q 14	DTA114YSA-T	D.TRANSISTOR		B,E,EE,EN,EV
	Q 16	2SC2668/0/-T	TRANSISTOR		U,US
	Q 17	DTA114YSA-T	D.TRANSISTOR		U,US
	R 1	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 2	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 3	QRE141J-220Y	C RESISTOR	22 5% 1/4W	
	R 4	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 7	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 9	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 12	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 13	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 14	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	B,E,EE,EN,EV
	R 15	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 16	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 17	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 18	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 19	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	B,E,EE,EN,EV
	R 20	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 21	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 24	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R 25	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 30	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 31	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 32	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 33	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 34	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	B,E,EE,EN,EV

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

⚠	Item	Parts number	Parts name	Remarks	Area
	R 35	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	U,US
	R 35	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	B,E,EE,EN,EV
	R 36	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	B,E,EE,EN,EV
	R 36	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	U,US
	R 37	QRE141J-560Y	C RESISTOR	56 5% 1/4W	
	R 38	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 39	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 40	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 41	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 42	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 44	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 45	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 47	QRE141J-220Y	C RESISTOR	22 5% 1/4W	
	R 48	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 51	QRE141J-331Y	C RESISTOR	330 5% 1/4W	
	R 52	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 54	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 55	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 56	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 57	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 59	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 60	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 61	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 63	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 64	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 66	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	U,US
	R 67	QRE141J-184Y	C RESISTOR	180K 5% 1/4W	B,E,EE,EN,EV
	R 71	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	U,US
	R 72	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	U,US
	T 2	QAX0540-001	C FIL		
	TC 2	QAT3725-200Z	T CAPACITOR	MW RF	
	TC 3	QAT3725-300Z	T CAPACITOR		B,E,EE,EN,EV
	TC 3	QAT3725-100Z	T CAPACITOR		U,US
	TP 1	QNZ0104-001	POST PIN	TO ROD ANT	
	TP 2	QNZ0104-001	POST PIN	GND	
	X 1	QAX0402-001	CRYSTAL		

■ **Electrical parts list (Head AMP.&mechanism board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 101	NCS21HJ-821X	C CAPACITOR	820PF 5% 50V	
	C 102	NCS21HJ-221X	C CAPACITOR	220PF 5% 50V	
	C 103	QEKJ0JM-227Z	E CAPACITOR	220MF 20% 6.3V	
	C 104	NCB21HK-333X	C CAPACITOR	.033MF 10% 50V	
	C 105	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 106	QEKJ1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 107	NCS21HJ-561X	C CAPACITOR	560PF 5% 50V	
	C 108	QEKJ1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 109	QEKJ1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 110	NCB21HK-682X	C CAPACITOR	6800PF 10% 50V	
	C 111	NCB21HK-122X	C CAPACITOR	1200PF 10% 50V	
	C 112	NCB21EK-683X	C CAPACITOR	.068MF 10% 25V	
	C 113	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 121	NCS21HJ-331X	C CAPACITOR	330PF 5% 50V	
	C 201	NCS21HJ-821X	C CAPACITOR	820PF 5% 50V	
	C 202	NCS21HJ-221X	C CAPACITOR	220PF 5% 50V	
	C 203	QEKJ0JM-227Z	E CAPACITOR	220MF 20% 6.3V	
	C 204	NCB21HK-333X	C CAPACITOR	.033MF 10% 50V	
	C 205	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 206	QEKJ1CM-106Z	E CAPACITOR	10MF 20% 16V	
	C 207	NCS21HJ-561X	C CAPACITOR	560PF 5% 50V	
	C 208	QEKJ1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 209	QEKJ1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 210	NCB21HK-682X	C CAPACITOR	6800PF 10% 50V	
	C 211	NCB21HK-122X	C CAPACITOR	1200PF 10% 50V	
	C 212	NCB21EK-683X	C CAPACITOR	.068MF 10% 25V	
	C 213	NCB21HK-222X	C CAPACITOR	2200PF 10% 50V	
	C 221	NCS21HJ-331X	C CAPACITOR	330PF 5% 50V	
	C 301	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 302	NCB21HK-393X	C CAPACITOR	.039MF 10% 50V	
	C 303	QEKJ0JM-227Z	E CAPACITOR	220MF 20% 6.3V	
	C 304	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 305	QEKJ1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 306	QEKJ1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 307	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 308	NCB21HK-562X	C CAPACITOR	5600PF 10% 50V	
	C 309	NCB21HK-562X	C CAPACITOR	5600PF 10% 50V	
	C 310	NCB21HK-223X	C CAPACITOR	.022MF 10% 50V	
	C 311	NCB21HK-682X	C CAPACITOR	6800PF 10% 50V	
	C 313	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 314	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 315	QCZ0205-155Z	ML CAPACITOR	1.5MF	
	C 316	QFG32AJ-103Z	PP CAPACITOR	.010MF 5% 100V	
	C 318	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 319	QFG32AJ-821Z	TF CAPACITOR	820PF 5% 100V	
	C 321	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	C 322	QFG32AJ-152Z	M CAPACITOR	1500PF 5% 100V	
	C 331	QEKJ1CM-476Z	E CAPACITOR	47MF 20% 16V	
	C 351	QEK41CM-106	E CAPACITOR	10MF 20% 16V	
	C 371	QEKJ1EM-475Z	E CAPACITOR	4.7MF 20% 25V	
	C 374	QEKJ1AM-107Z	E CAPACITOR	MOTOR +B	
	C 375	QEKJ1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 376	NCB21HK-103X	C CAPACITOR	.010MF 10% 50V	
	CN 31	QGF1205F1-06	CONNECTOR	PRI/HEAD	
	CN 32	QGB2011M1-10	PWB CONECTOR	PRI/MECHA	
	CN 33	QGF1205F1-09	CONNECTOR	PRI/MICON	
	CN 34	QGF1205F1-10	CONNECTOR	PRI/AMP	
	D 301	MA152WA-X	DIODE		
	D 309	MA704A-X	S.K.DIODE		
	D 375	MA3051/M/-X	ZENER DIODE		
	FW 31	QUM024-06A2Z3	EF FLAT		
	IC 31	BA3126N	IC	HEAD SW	
	IC 32	AN7317	IC	PB&REC	
	IC 33	BU4094BCF-X	IC		

⚠	Item	Parts number	Parts name	Remarks	Area
	L 301	QQR0620-001	OSC COIL(BIAS)		
	L 303	QQL01BK-100Z	INDUCTOR		
	Q 101	DTC114TKA-X	TRANSISTOR		
	Q 102	DTC114TKA-X	TRANSISTOR	REC EQ CONT.	
	Q 201	DTC114TKA-X	TRANSISTOR		
	Q 202	DTC114TKA-X	TRANSISTOR	REC EQ CONT.	
	Q 301	DTA144EKA-X	TRANSISTOR	REC EQ CONT.	
	Q 302	2SC2001/K/-T	TRANSISTOR		
	Q 303	2SC2001/K/-T	TRANSISTOR		
	Q 304	2SC2001/LK/-T	TRANSISTOR		
	Q 305	2SC2001/LK/-T	TRANSISTOR		
	Q 306	2SC2412K/RS/-X	CHIP TRANSISTOR		
	Q 307	2SC2412K/RS/-X	CHIP TRANSISTOR		
	Q 308	2SC2412K/RS/-X	CHIP TRANSISTOR		
	Q 309	2SC2412K/RS/-X	CHIP TRANSISTOR		
	Q 321	DTC144EKA-X	TRANSISTOR		
	Q 323	2SC2412K/RS/-X	CHIP TRANSISTOR		
	Q 371	2SA952/LK/-T	TRANSISTOR	MOTER+B	
	Q 372	DTC124EKA-X	TRANSISTOR		
	Q 375	2SB562/C/-T	TRANSISTOR	SOLENOID DRIVE	
	Q 376	2SC2412K/RS/-X	CHIP TRANSISTOR		
	R 101	NRSA02J-220X	MG RESISTOR	22 5% 1/10W	
	R 102	NRSA02J-182X	MG RESISTOR	1.8K 5% 1/10W	
	R 103	NRSA02J-242NY	MG RESISTOR	2.4K 5% 1/10W	
	R 104	NRSA02J-122X	MG RESISTOR	1.2K 5% 1/10W	
	R 105	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 106	NRSA02J-332X	MG RESISTOR	3.3K 5% 1/10W	
	R 107	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 108	NRSA02J-562X	MG RESISTOR	5.6K 5% 1/10W	
	R 109	NRSA02J-122X	MG RESISTOR	1.2K 5% 1/10W	
	R 110	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 111	NRSA02J-333X	MG RESISTOR	33K 5% 1/10W	
	R 112	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 113	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 114	NRSA02J-272X	MG RESISTOR	2.7K 5% 1/10W	
	R 116	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 121	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 201	NRSA02J-220X	MG RESISTOR	22 5% 1/10W	
	R 202	NRSA02J-182X	MG RESISTOR	1.8K 5% 1/10W	
	R 203	NRSA02J-242NY	MG RESISTOR	2.4K 5% 1/10W	
	R 204	NRSA02J-122X	MG RESISTOR	1.2K 5% 1/10W	
	R 205	NRSA02J-104X	MG RESISTOR	100K 5% 1/10W	
	R 206	NRSA02J-332X	MG RESISTOR	3.3K 5% 1/10W	
	R 207	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 208	NRSA02J-562X	MG RESISTOR	5.6K 5% 1/10W	
	R 209	NRSA02J-122X	MG RESISTOR	1.2K 5% 1/10W	
	R 210	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 211	NRSA02J-333X	MG RESISTOR	33K 5% 1/10W	
	R 212	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 213	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 214	NRSA02J-272X	MG RESISTOR	2.7K 5% 1/10W	
	R 216	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 221	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 301	NRS181J-221X	MG RESISTOR	220 5% 1/8W	
	R 303	NRSA02J-393X	MG RESISTOR	39K 5% 1/10W	
	R 304	NRS181J-101X	MG RESISTOR	100 5% 1/8W	
	R 305	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 306	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 310	NRS181J-560X	MG RESISTOR	56 5% 1/8W	
	R 311	NRS181J-560X	MG RESISTOR	56 5% 1/8W	
	R 313	NRSA02J-3R3NY	MG RESISTOR	3.3 5% 1/10W	
	R 314	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	
	R 315	NRSA02J-100X	MG RESISTOR	10 5% 1/10W	
	R 316	NRSA02J-223X	MG RESISTOR	22K 5% 1/10W	

■ **Electrical parts list (Head AMP.&mechanism board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	R 317	NRSA02J-100X	MG RESISTOR	10 5% 1/10W	
	R 319	NRSA02J-152X	MG RESISTOR	1.5K 5% 1/10W	
	R 322	NRSA02J-152X	MG RESISTOR	1.5K 5% 1/10W	
	R 327	NRSA02J-474X	MG RESISTOR	470K 5% 1/10W	
	R 332	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 333	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 335	NRSA02J-152X	MG RESISTOR	1.5K 5% 1/10W	
	R 336	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	R 337	NRSA02J-332X	MG RESISTOR	3.3K 5% 1/10W	
	R 338	NRSA02J-392X	MG RESISTOR	3.9K 5% 1/10W	
	R 339	NRSA02J-222X	MG RESISTOR	2.2K 5% 1/10W	
	R 340	NRS181J-391X	MG RESISTOR	390 5% 1/8W	
	R 341	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 342	NRSA02J-203X	MG RESISTOR	20K 5% 1/10W	
	R 343	NRSA02J-183X	MG RESISTOR	18K 5% 1/10W	
	R 351	NRSA02J-683X	MG RESISTOR	68K 5% 1/10W	
	R 352	NRSA02J-912X	MG RESISTOR	9.1K 5% 1/10W	
	R 371	NRSA02J-123X	MG RESISTOR	12K 5% 1/10W	
	R 372	NRSA02J-102X	MG RESISTOR	1.0K 5% 1/10W	
	R 375	NRSA02J-151X	MG RESISTOR	150 5% 1/10W	
	R 376	NRSA02J-472X	MG RESISTOR	4.7K 5% 1/10W	
	VR 31	QVP0008-503Z	SEMI V RESISTOR	BIAS ADJ	
	VR 32	QVP0008-503Z	SEMI V RESISTOR	BIAS ADJ	
	VR 37	QVP0008-103Z	SEMI V RESISTOR	TAPE SPEED ADJ	

■ **Electrical parts list (Cassette switch board)** **Block No. 05**

⚠	Item	Parts number	Parts name	Remarks	Area
	CN 1	QGB2011L1-10	10P PLUG ASSY		
	D 1	1SR139-400-T2	SI DIODE		
	IC 1	SG-105F3-BB,C	PHOTO SENSER		
	P 1	QNZ0104-001	POST PIN		
	SW 1	QSW0832-001	CASSETTE SWITCH	R.REC	
	SW 2	QSW0832-001	CASSETTE SWITCH	TAPE	
	SW 4	QSW0832-001	CASSETTE SWITCH	70U	
	SW 5	QSW0832-001	CASSETTE SWITCH	F.REC	
	SW 6	QSW0859-001	SWITCH		