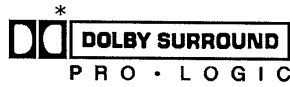


Service Manual

AV Control Stereo Receiver

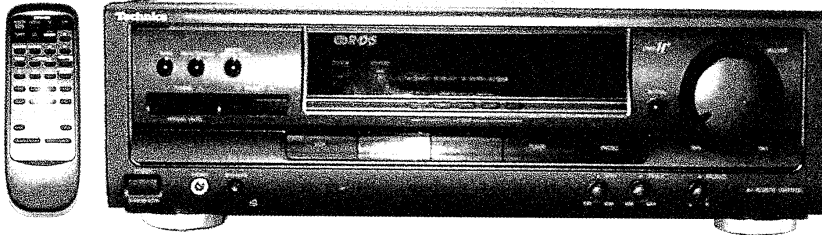
Receiver



SA-EX120

Colour

(K) Black Type



Area

| Suffix for Model No. | Area | Colour |
|----------------------|-----------------|--------|
| (E) | Europe | (K) |
| (EB) | Great Britain | |
| (EG) | Germany & Italy | |

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Specifications

Amplifier Section

| | |
|---|--|
| Power output (at 240V) | |
| DIN 1 kHz (T.H.D. 1%) | 2 x 100 W (4 Ω) |
| 40 Hz-20 kHz continuous power output both channels driven | 2 x 80 W (8 Ω) |
| Total harmonic distortion | |
| rated power at 40 Hz-20 kHz | 0.5% (8 Ω) |
| half power at 1 kHz | 0.07% (8 Ω) |
| Frequency response | |
| PHONO | RIAA standard curve (30 Hz-15 kHz) ±0.8 dB |
| CD, TAPE MONITOR, VCR | 10 Hz-40 kHz, ±3 dB |
| Input sensitivity and impedance | |
| PHONO | 3mV/47 kΩ |
| CD, TAPE MONITOR, VCR | 200 mV/22 kΩ |
| S/N at rated power (8 Ω) | |
| PHONO | 70 dB (IHF, A: 80 dB) |
| CD, TAPE MONITOR, VCR | 75 dB (IHF, A: 85 dB) |
| Tone controls | |
| BASS | 50 Hz, +10 to -10 dB |
| TREBLE | 20 kHz, +10 to -10 dB |
| Output voltage | |
| TAPE REC (OUT), VCR OUT | 200 mV |
| Channel balance (250 Hz-6.3 kHz) | ±1 dB |
| Channel separation | 55 dB |
| Headphones output level and impedance | 430 mV/ 330 Ω |

FM TUNER Section

| | |
|---------------------------------------|-----------------------|
| Frequency range | 87.50 - 108.00 MHz |
| Sensitivity | |
| S/N 30 dB | 1.5 μV/75 Ω |
| S/N 26dB | 1.3 μV/75 Ω |
| S/N 20 dB | 1.2 μV/75 Ω |
| IHF usable sensitivity | 1.5 μV/75 Ω (IHF '58) |
| IHF 46 dB stereo quieting sensitivity | 22 μV/75 Ω |

Total harmonic distortion

| | |
|---------------------------------------|----------------------|
| MONO | 0.2% |
| STEREO | 0.3% |
| S/N | |
| MONO | 60 dB (73 dB, IHF) |
| STEREO | 58 dB (67 dB, IHF) |
| Frequency response 20 Hz-15 kHz | +1 dB, -2 dB |
| Alternate channel selectivity | |
| ±400 kHz | 65 dB |
| Capture ratio | 1.5 dB |
| Image rejection at 98 MHz | 40 dB |
| IF rejection at 98 MHz | 70 dB |
| Spurious response rejection at 98 MHz | 70 dB |
| AM suppression | 50 dB |
| Stereo separation | |
| 1 kHz | 40 dB |
| Carrier leak | |
| 19kHz | -30 dB (-35 dB, IHF) |
| 38 kHz | -50 dB (-55 dB, IHF) |
| Channel balance (250 Hz-6.3 kHz) | ±1.5 dB |
| Limiting point | 1.2 μV |
| Bandwidth | |
| IF amplifier | 180 kHz |
| FM demodulator | 1000 kHz |
| Antenna terminal | 75 Ω (unbalanced) |

AM TUNER Section

| | |
|-----------------|-----------------|
| Frequency range | 522-1611 kHz |
| Sensitivity | 20 μV, 330 μV/m |
| Selectivity | |
| (at 999 kHz) | 55 dB |
| IF rejection | |
| (at 999 kHz) | 50 dB |

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

■ General**Power supply [E,EG]**

AC; 230, 50Hz

[EB]

AC; 230~240 V, 50Hz

Power Consumption

190 W

Dimensions

430 (W) x 136 (H) x 309 (D) mm

Weight

7.0 kg

Notes :

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

■ Contents

| | PAGE | | PAGE |
|--------------------------------------|---------|--|---------|
| • BEFORE REPAIR AND ADJUSTMENT | 2 | • BLOCK DIAGRAM | 18 ~ 20 |
| • PROTECTION CIRCUITRY | 2 | • TERMINAL FUNCTION OF ICs..... | 21 |
| • CAUTION FOR AC MAINS LEAD | 3 | • TERMINAL GUIDE OF ICs, TRANSISTORS & DIODES | 22 |
| • ACCESSORIES | 4 | • SCHEMATIC DIAGRAM | 23 ~ 30 |
| • FRONT PANEL CONTROLS | 4 | • WIRING CONNECTION DIAGRAM | 31 |
| • EQUIPMENT CONNECTIONS | 5 | • PRINTED CIRCUIT BOARD..... | 32 ~ 37 |
| • SPEAKER CONNECTIONS | 6 | • CABINET PARTS LOCATION | 38 |
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| • LISTENING TO RADIO BROADCASTS..... | 9 ~ 11 | • RESISTORS & CAPACITORS | 41 ~ 43 |
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■ Before Repair and Adjustment

Disconnect AC power, discharge four Power Supply Capacitors (C703 to C706) through a 10Ω, 5W resistor to ground. DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices. After repairs are completed, restore power gradually using a variac, to avoid overcurrent.

Current consumption at 230V - 240V, 50Hz in NO SIGNAL mode should be between 130mA to 190mA.

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed :

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ Caution for AC Mains Lead



(For "EB" area code model only.)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION !

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

| | |
|--------|---------|
| Blue: | Neutral |
| Brown: | Live |

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

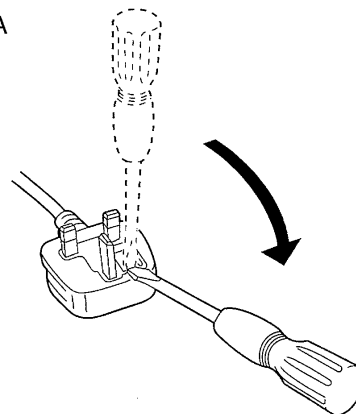
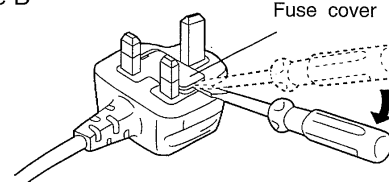


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

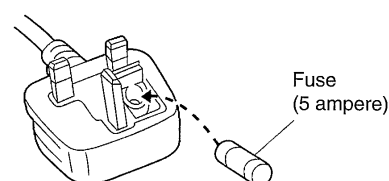
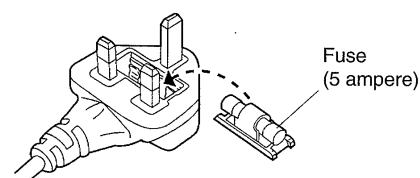
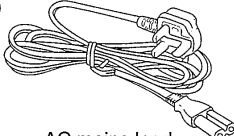
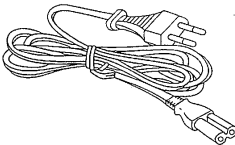
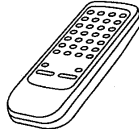
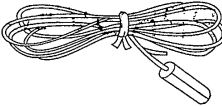
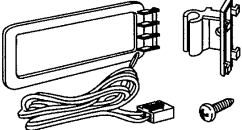



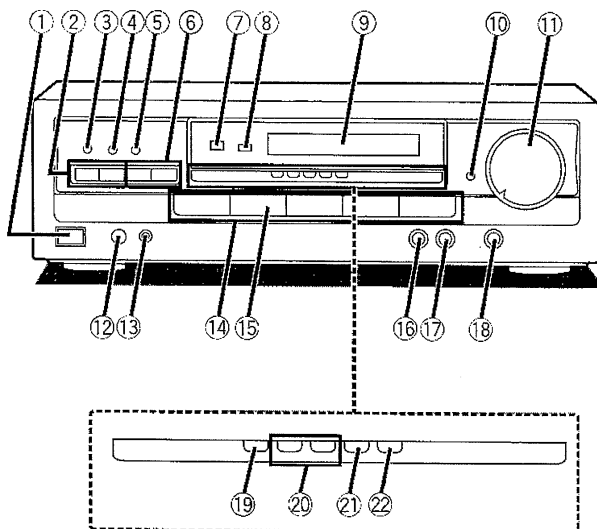
Figure B



Accessories

| | | | |
|---|---|--|--|
| <p>(EB)</p>  <p>AC mains lead (RJA005-1X ... EB)1 pc. (RJA0019-2K ... E/EG)1 pc.</p> | <p>(E/EG)</p>  |  <p>Remote control unit (EUR644858)1 pc</p> |  <p>FM indoor antenna (RSA0007)1 pc</p> |
|  <p>AM loop antenna set (RSA0010)1 set</p> |  <p>Attachment plug (SJP9009)1 pc.</p> | | |

Front Panel Controls



**① Power “STANDBY  /ON” switch
(POWER, STANDBY  /ON)**

Press to switch the unit from on to standby mode or vice versa.
In standby mode, the unit is still consuming a small amount of power.

② Tuning buttons (TUNING)

③ Band select button (BAND)

④ FM mode select button (FM AUTO/MONO)

⑤ Memory button (MEMORY)

⑥ Preset channel buttons (PRESET)

⑦ Remote control signal sensor (SENSOR)

⑧ “STANDBY” indicator (STANDBY)

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

⑨ Display

⑩ Muting button (MUTING)

⑪ Volume control (VOLUME)

⑫ Headphones jack (PHONES)

⑬ Speaker ON/OFF button (SPEAKERS)

⑭ Input select buttons

⑮ Tape monitor button (TAPE MONITOR)

⑯ Bass control (BASS)

⑰ Treble control (TREBLE)

⑱ Balance control (BALANCE)

**⑲ RDS display mode select button
(DISPLAY MODE)**

⑳ PTY select buttons (PTY SELECT)

㉑ EON ON/OFF button (EON)

㉒ PTY search button (SEARCH)

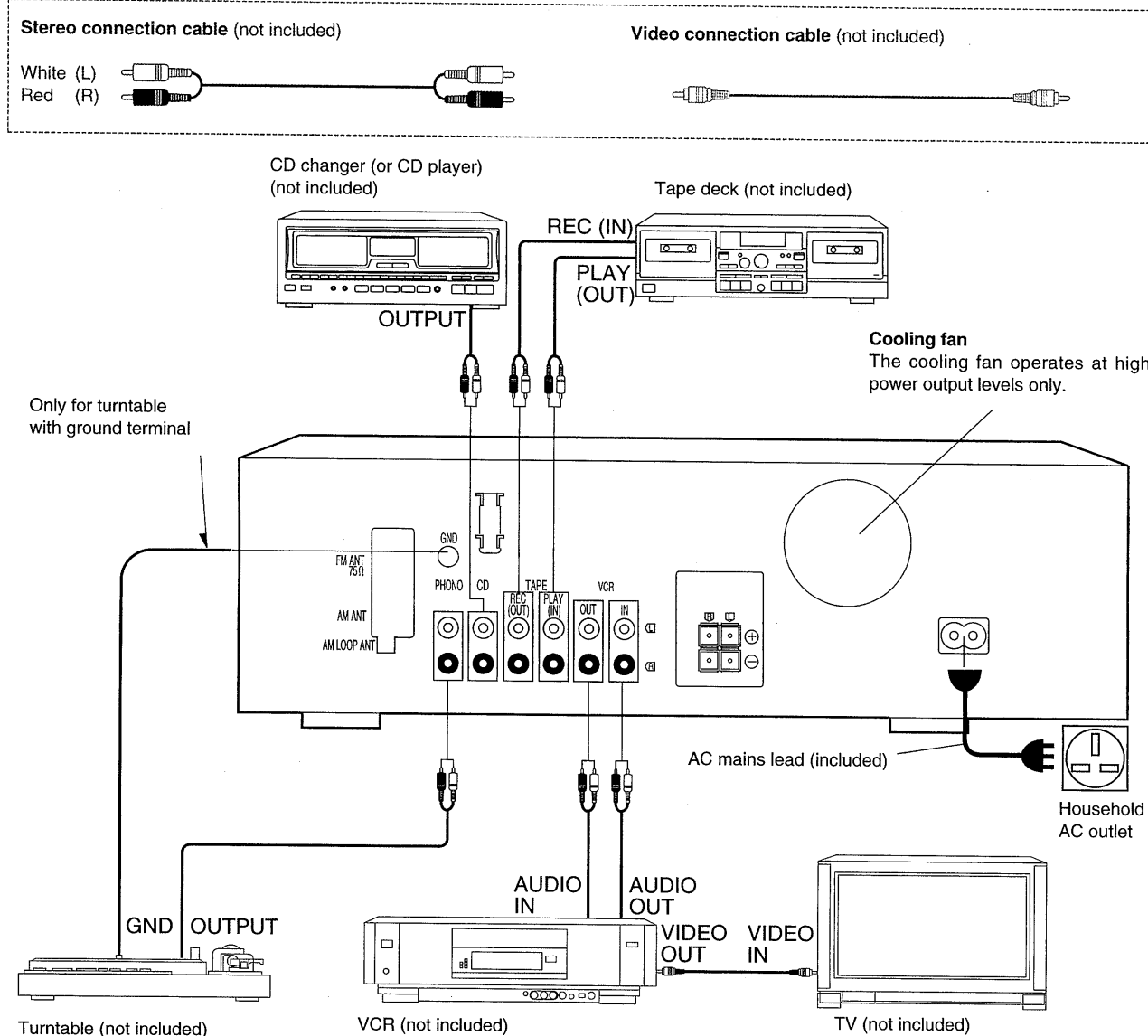
Equipment connections

Make sure that the power supply for all components has been turned off before making any connections.

Refer to the operating instructions of the equipment to be connected.

Note

Do not place books, etc., on the top of this unit or block the heat radiation vents in any way.



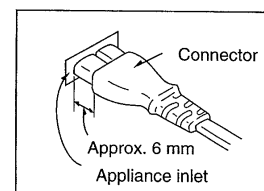
AC mains lead

BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 3 BEFORE THE FOLLOWING CONNECTION.

Connect this mains lead after all other cables and cords are connected.

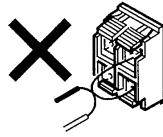
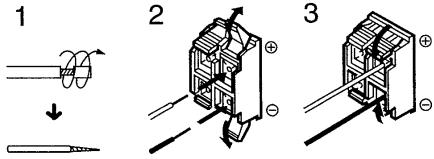
Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.



■ Speaker connections

Connecting the speaker cable



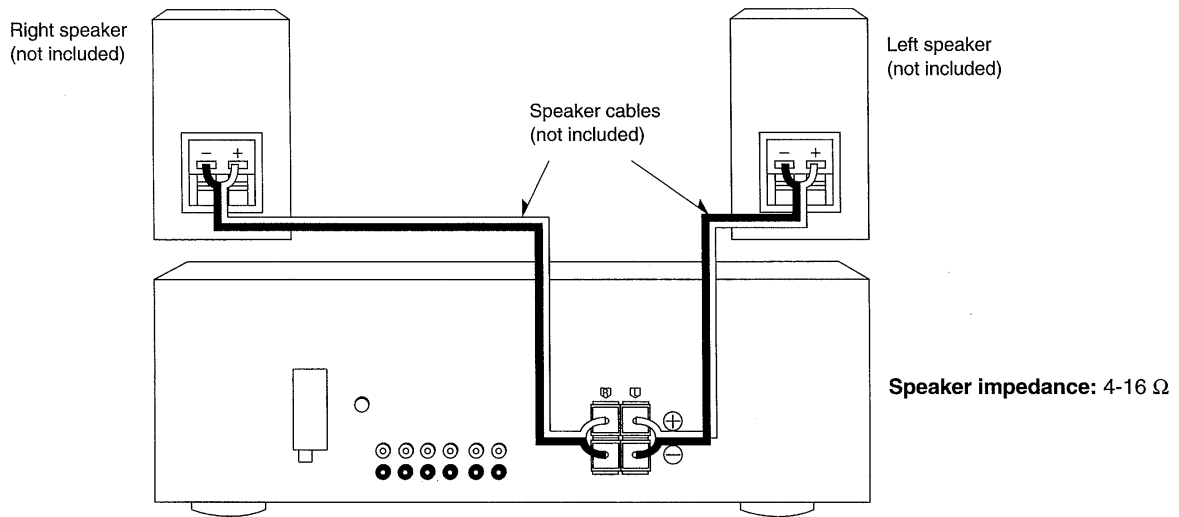
Note

To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

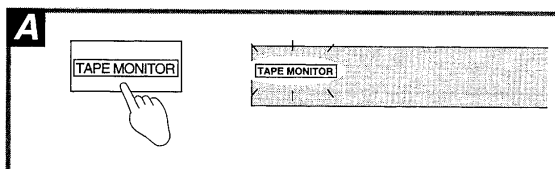
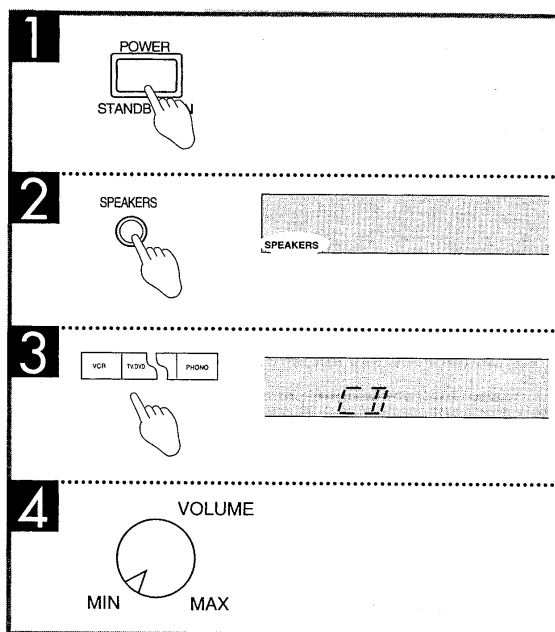
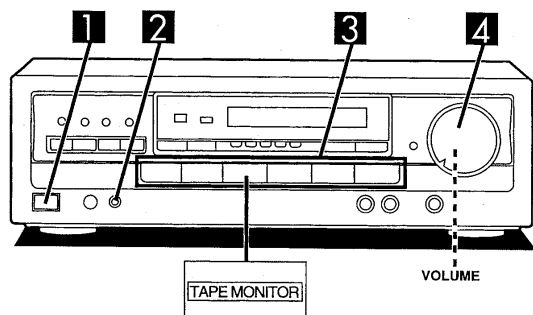
Connecting speakers

Note

Other connections are possible depending on the speaker system you have. For details, see the operating instructions that came with your speaker system.



Basic operations



Before operation, set VOLUME to the "MIN" position.

- 1** Press **POWER**.
- 2** Press **SPEAKERS** and check the "SPEAKERS" indication lights up.

If the button is pressed once more, the indicator will switch off and no sound will be heard from the speakers.

- 3** Select and start the desired source.
(Refer to the appropriate operating instructions for details.)

VCR: To watch video tapes (VCR)

TAPE MONITOR: To listen to cassette tapes (The "TAPE MONITOR" indicator will appear.) (See below.)

CD: To listen to compact discs

TUNER: To listen to radio broadcasts

PHONO: To listen to phono discs

- 4** Adjust the volume level.

After you are finished

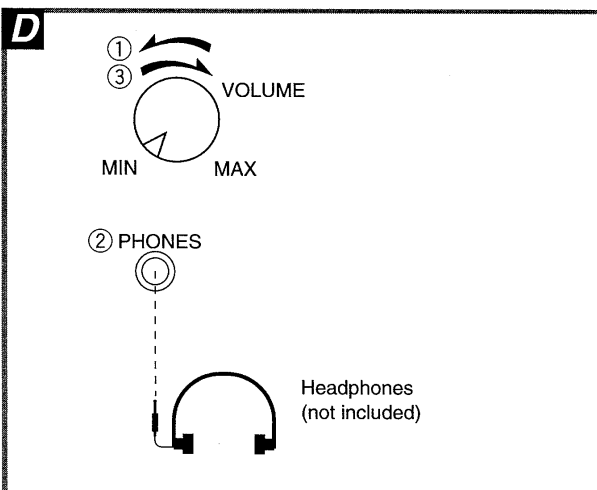
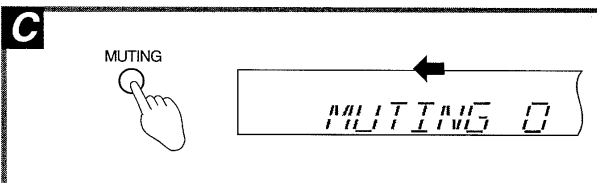
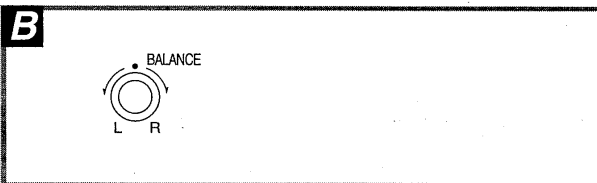
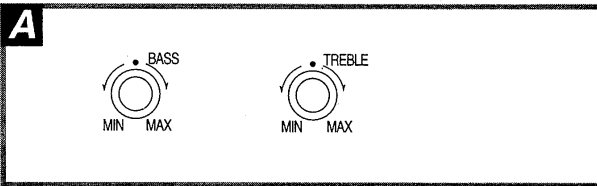
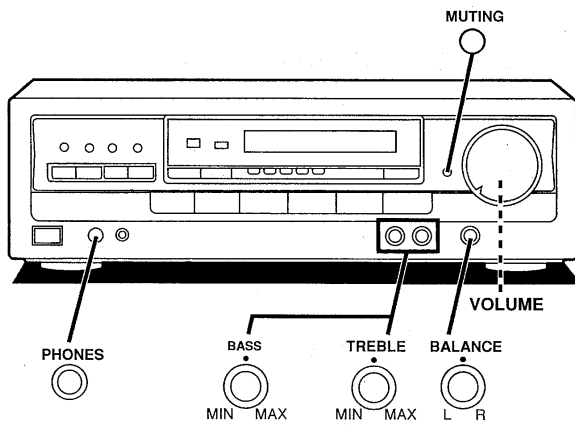
Be sure to reduce the volume, and switch the power to the standby condition by pressing **POWER**.

When the tape monitor indicator is lit or flashing **A**

This indicates that the tape monitor function of this unit is ON.

To listen to sources other than a tape, be sure to press **TAPE MONITOR** and check the indicator goes out.

Basic operations



To adjust the tone quality **A**

Turn **BASS** to adjust the low frequency sound.
Turn **TREBLE** to adjust the high frequency sound.

To adjust the sound balance **B**

Turn **BALANCE** to adjust the left/right sound balance.

To mute the sound level **C**

Press MUTING.

The message "MUTING ON NOW" runs repeatedly from right to left across the display as long as the muting function is on.

Press once again to return to the previous volume level.

Note

When the receiver is turned off, the muting operation will be automatically cancelled.

To listen through headphones **D**

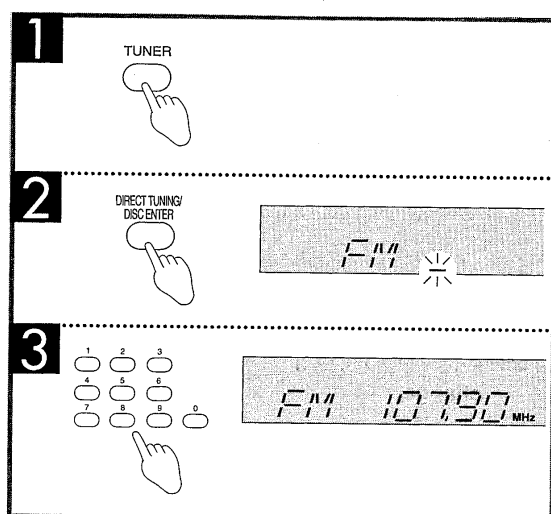
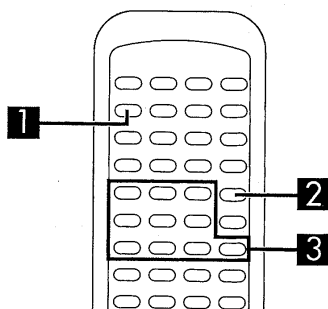
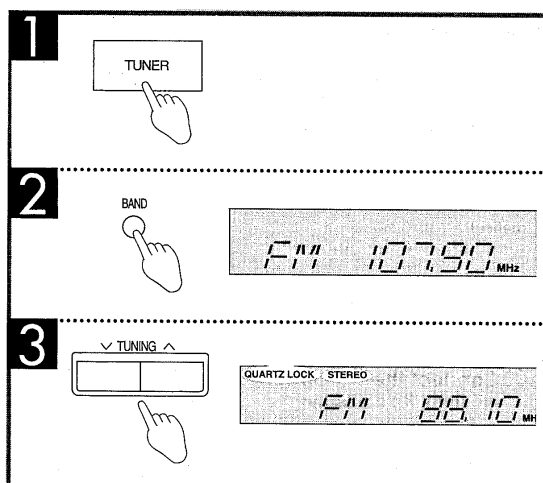
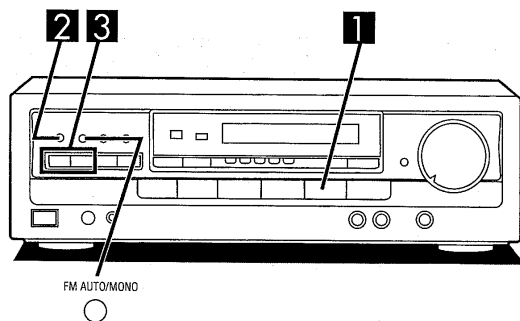
- ① Reduce the volume level.
- ② Connect the headphones.
Plug type: 6.3 mm stereo
- ③ Adjust the volume level.

If you do not want sound from the speakers, press the **SPEAKERS** and check the speaker indicator goes out.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

■ Listening to radio broadcasts



Sequential tuning

You can use the tuning buttons to tune-in radio stations.

- 1** Press **TUNER**.
- 2** Press **BAND** to select "FM" or "AM".
- 3** Press **TUNING** (∇) or (∧) to tune to the desired frequency.

"QUARTZ LOCK" lights up when tuned.

"STEREO" lights up when an FM stereo broadcast is received.

To make an automatic search for broadcast stations

If TUNING (∇) or (∧) is held down for an instant until the frequency begins to scroll, the broadcast stations are tuned in automatically when found.

Note

Tuning may stop automatically if any jamming is encountered.

If noise is excessive in the FM stereo mode

Press FM AUTO/MONO.

(The "STEREO" indicator will go out, and the "MONO" indicator will light up.)

The broadcast will be monaural, but noise will be reduced.

If the button is pressed once more, the stereo mode will be resumed.

Direct tuning

(Only available from the remote control.)

Specify the frequency using the numeric buttons on the remote control transmitter to directly tune to a station.

First select between FM and AM with the BAND button on the receiver.

- 1** Press **TUNER**.
This will set the remote control to operate the tuner.
- 2** Press **DIRECT TUNING/DISC ENTER**.
- 3** While cursor is flashing (approx. 10 seconds)
Press the numeric buttons to enter the frequency.

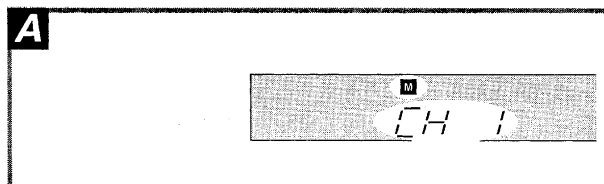
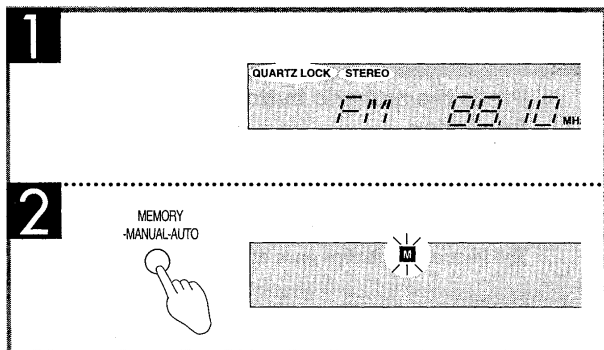
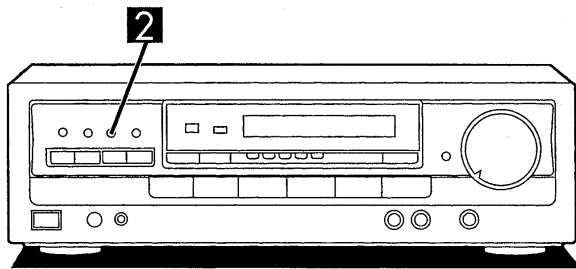
If the desired FM frequency is 107.90 MHz, press
1 → 0 → 7 → 9 → 0

The frequency will blink once and the station will be tuned in.

Note

1. If no button is pressed while the cursor display is flashing, the display will return to the frequency which is currently being received. To re-specify the frequency, repeat the procedure from step 2.
2. If the frequency was not input correctly, "ERROR" is displayed. In this case, re-enter the frequency.

■ Listening to radio broadcasts



Preset tuning

Presetting radio stations into the memory channels of this unit makes selecting stations simple.

A total of 30 FM and AM stations can be preset.

Please remember this

If a new broadcast station is preset into a channel, the setting for the broadcast station which was previously entered in that channel will be automatically erased.

Automatic memory presetting

Automatic memory presetting allows this unit to automatically search for broadcast stations and then preset them into memory. With this method, the channels that can be preset into the memory are set as follows for different bands (FM or AM).

When FM stations are preset,

For FM stations1-30

When FM and AM stations are preset,

For FM stations1-20

For AM stations21-30

1 Set to the frequency from which you want to start automatic memory presetting.

2 Press MEMORY until the frequency begins to change.

(Automatic memory presetting will start.)

During automatic memory presetting, the memory indicator will flash while the frequency scrolls.

To stop, press MEMORY once again.

When a broadcast station is preset

The memory indicator and the preset channel number will be displayed for approximately 1 second.

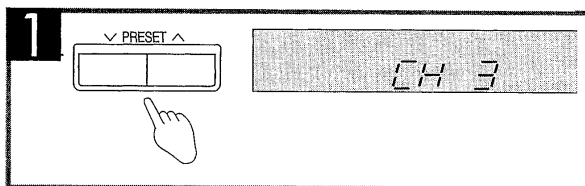
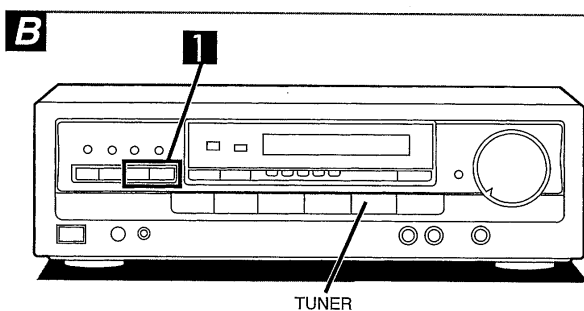
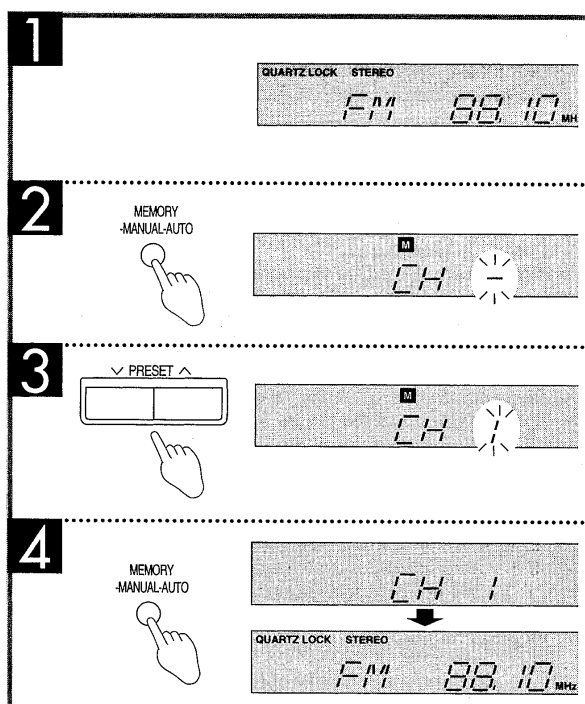
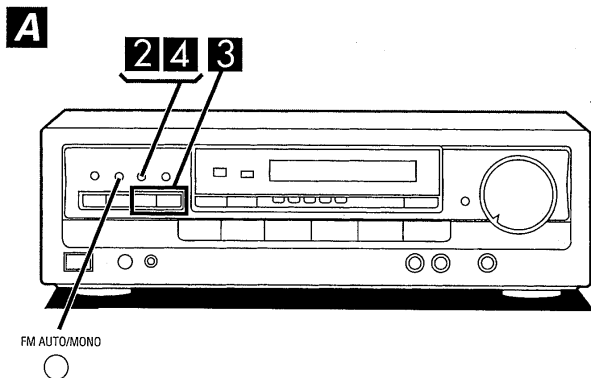
When presetting is completed

The last broadcast station to be preset will be displayed.

Note

Frequencies may not be preset correctly in cases where the broadcast waves are too strong or too weak. In such cases, carry out pre-setting manually.

■ Listening to radio broadcasts



Manual memory presetting **A**

The desired stations can be preset into the desired channels by the user.

- 1 Set to the desired frequency.**
If interference or static is keeping you from enjoying an FM station, press FM AUTO/MONO and change to monaural. The station is preset in monaural if this is done.
- 2 Press MEMORY.**
To cancel the memory function, press MEMORY again.
- 3 Press PRESET (∇) or (▲) to select the desired channel.**
Holding the buttons down lets you scroll through channels faster.
- 4 Press MEMORY.**
The channel will blink on the display.

To continue presetting
Repeat steps 1 through 4.

To listen to preset channels **B**

- 1 Press PRESET (∇) or (▲) to select the desired channel.**
Holding the buttons down lets you scroll through channels faster.

To confirm the channel number of the broadcast station being received
Press TUNER.
(The channel number will be displayed for approximately 1 second.)

Note

The channel number is not displayed if you change the reception frequency or FM mode setting.

For your reference

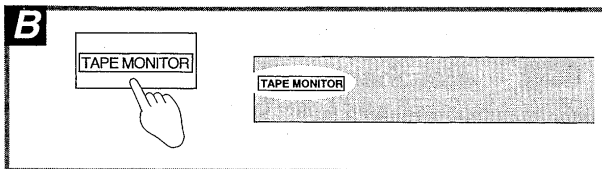
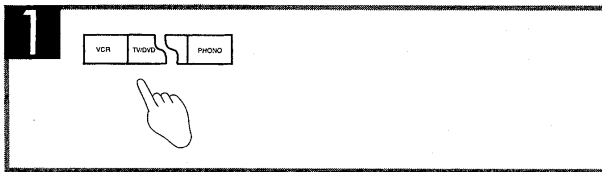
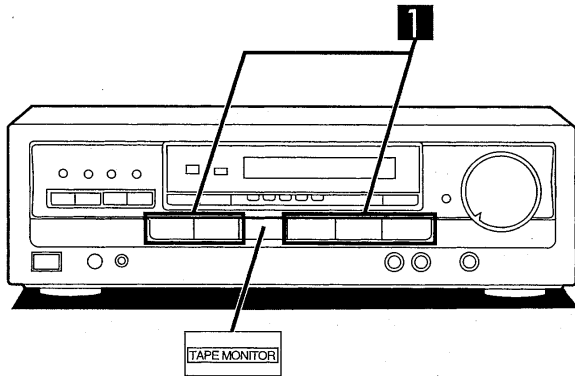
Even if the power cord is disconnected from the household AC outlet, the memory will retain its contents for approximately one month.

If frequency presettings are accidentally erased

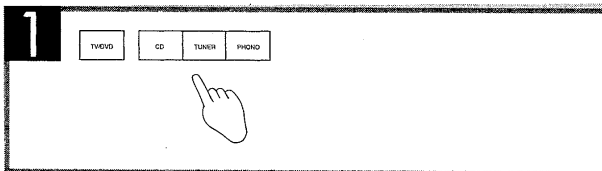
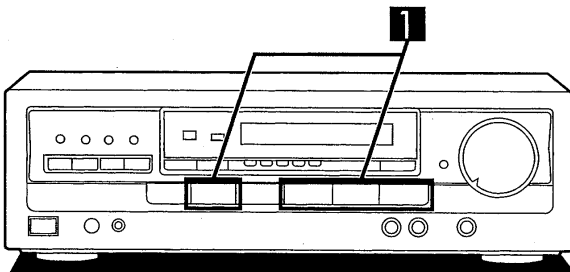
Program the presettings once again.
The power cord should remain connected for one hour or more for the memory back-up to be effective.

■ Making a recording

A



C



Recording on a tape deck A

Before recording, prepare the tape deck for recording (recording level adjustment, etc.).

See the tape deck's operating instructions for details.

- 1 Select the source to be recorded.**
Any source can be selected except **TAPE MONITOR**.
- 2 Begin recording on the tape deck.**
Follow your tape deck's operating instructions.
- 3 Begin the desired source to be recorded.**
Follow your equipment's operating instructions.

To check the sound recorded while a recording is being made B

It is possible to check the sound being recorded if your tape deck is a 3 head system.

Press **TAPE MONITOR** on this unit and set the monitor button on the tape deck to "TAPE".

Press **TAPE MONITOR** once again to turn it off.

Recording on a VCR C

Before recording, prepare the VCR for recording (recording level adjustment, input selector setting, etc.).

See the VCR's operating instructions for details.

- 1 Select the source to be recorded.**
Any source can be selected except VCR and **TAPE MONITOR**.

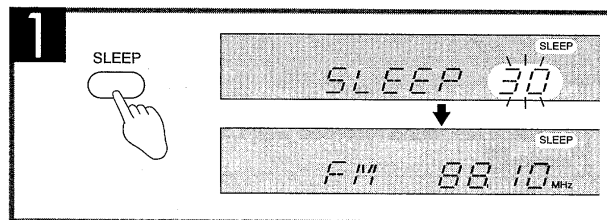
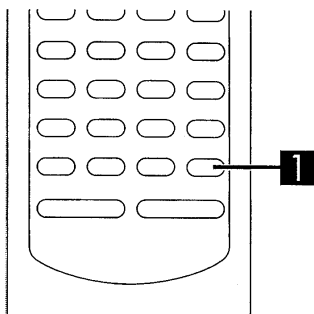
Note

Recording from a tape deck is not possible.

- 2 Begin recording on the VCR.**
Follow your VCR's operating instructions.
- 3 Begin the source to be recorded.**
Follow your equipment's operating instructions.

■ Sleep timer function

A



(Only available from remote control)

This feature turns the unit off for you after a set time. It can be set for 30, 60, or 90 minutes.

Note

The sleep timer turns off the receiver, but it does not turn off any external components.

1

(While listening to the radio)

Press SLEEP to set the desired time.

The "SLEEP" indicator will appear on the display.

Each time the button is pressed, the indicator will change in the order:

30 → 60 → 90 → OFF



The display returns to the way it was before in about 5 seconds.

To cancel the sleep timer

Press SLEEP until "OFF" is displayed. The "SLEEP" indicator will go out.

To check how much time is left (while the timer is running)

Press SLEEP once.

Note

Do not press SLEEP again before the remaining time display goes out.

If you do so, the timer will return to the setting mode.

To change the set time while the timer is running

1. Press SLEEP.
2. Press SLEEP again while the remaining time is displayed and then reset the timer (30, 60 or 90 minutes.)

■ Operation Checks

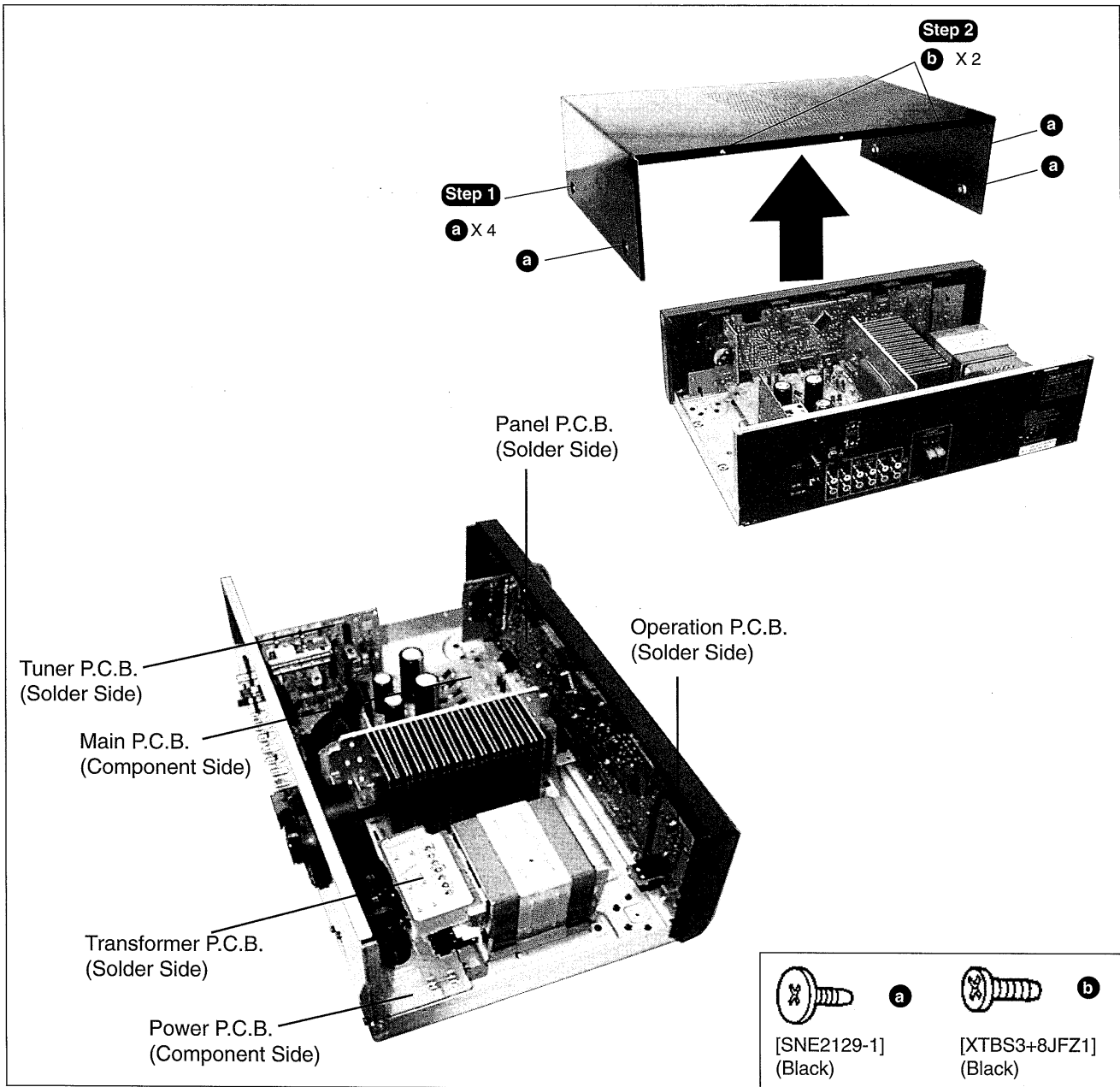
"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

• **Contents**

| | page |
|--|--------|
| • Checking Procedure For Each Major P.C.B. | 14~ 16 |
| • Replacement of Power IC and Regulator Transistor | 17 |

■ Checking Procedure For Each Major P.C.B.



To remove Front Panel and check Panel P.C.B. , Operation P.C.B. and Headphone Jack P.C.B.

Step 1

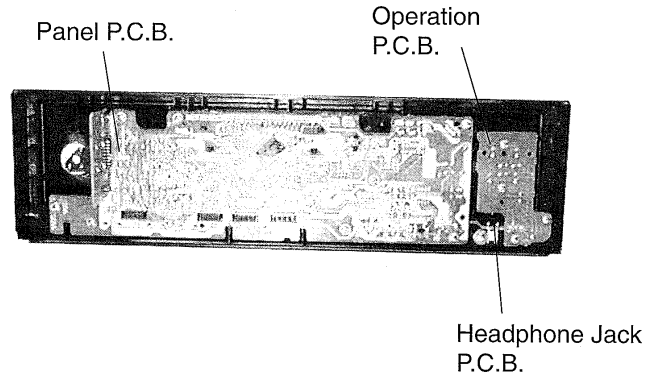
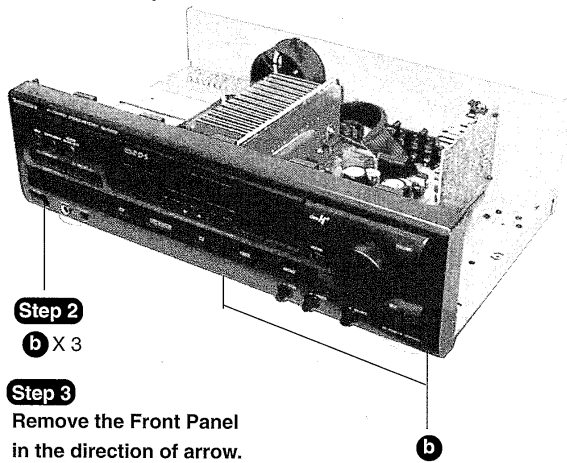
Remove the top cabinet.

Step 2

b X 3

Step 3

Remove the Front Panel in the direction of arrow.



To remove Rear Panel and check Main P.C.B., Power P.C.B., Transformer & Tuner P.C.B.

Step 4

Pull out the rear panel in the direction of arrow.

Step 1

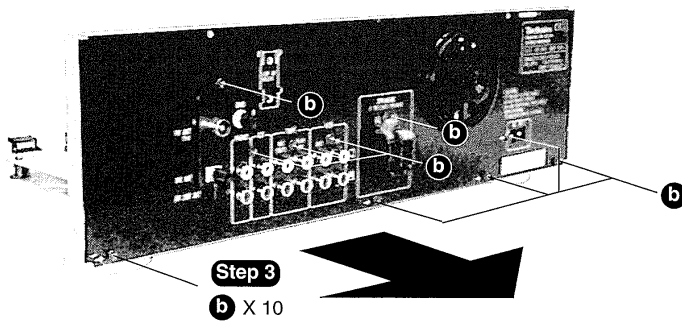
Remove the top cabinet.

Step 2

Remove the front panel.

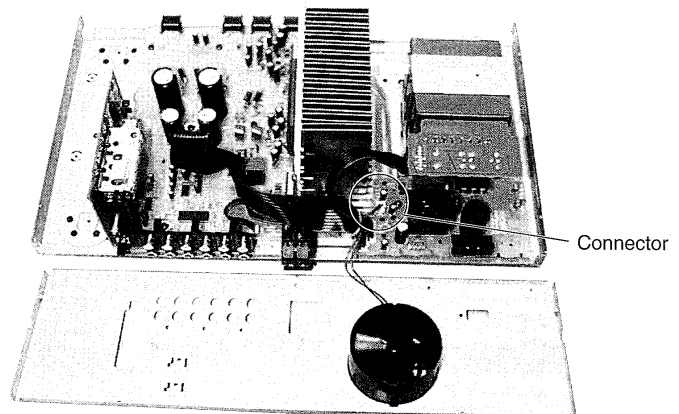
Step 5

Release the fan motor connector



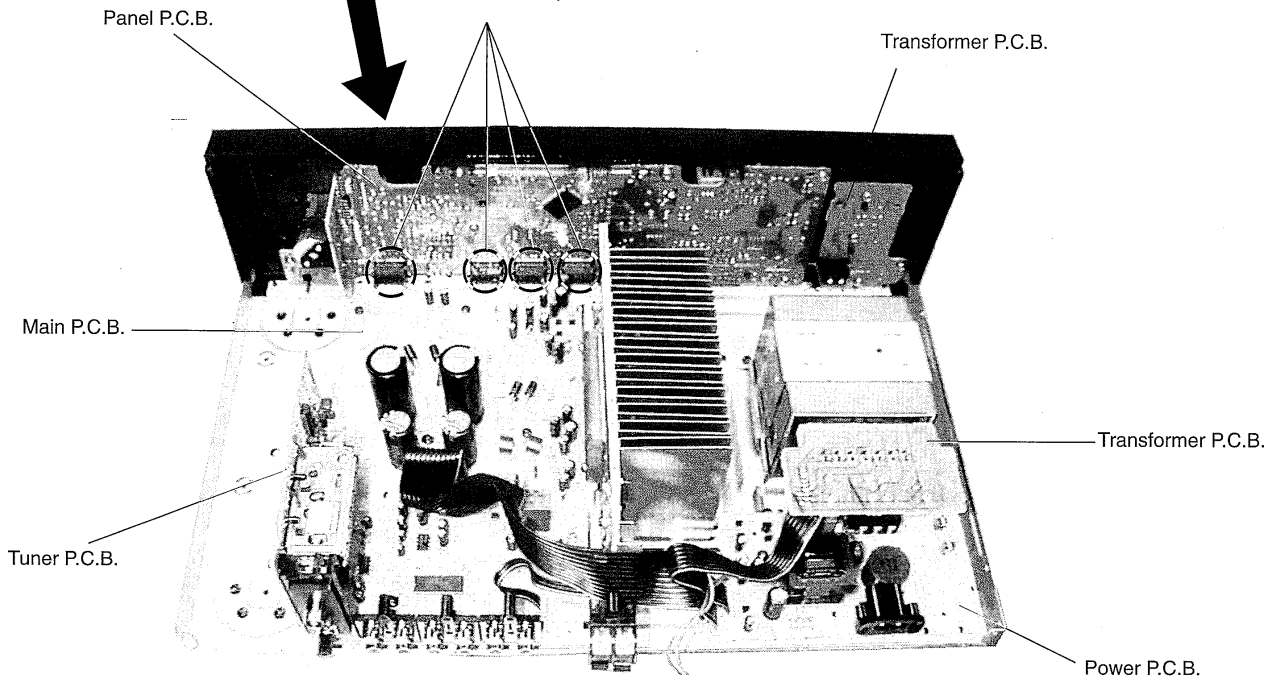
Step 3

b X 10



Step 6

Fix back the front panel and connect the four connector (CN901 to CN904).

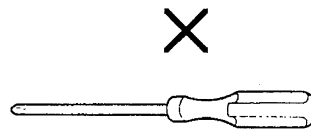


Step 7

Check the Main P.C.B., Panel P.C.B., Transformer P.C.B., Tuner P.C.B. and Power P.C.B.

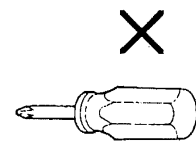
CAUTION

1. After replacing the power IC or regulator transistor, apply a sufficient quantity of compound grease (RFKX0002/SZZ0L15) between the heat sink and the power IC or regulator transistor (Radiation of power IC).
2. Tighten enough the screws after replacing the power IC and regulator transistor. Otherwise, the heat radiation works little.
3. When installing or removing the power IC or transistor holder, be sure to use an offset screwdriver.
 - A long straight screwdriver cannot be used for removing or mounting the screws since its long grip interferes with the neighbouring P.C.B. (See Fig.1)
 - A short straight screwdriver may be used for removal, but cannot be used for mounting because the limited space in the unit will not allow sufficient tightening torque.(See Fig.2)



A long straight screwdriver

Fig.1



A short straight screwdriver

Fig.2

- Insufficient tightening will cause poor heat dissipation from the power IC and regulator transistor and, in the worst case, may lead to their thermal breakdown.

■ Replacement of Power IC and Regulator Transistor

Locate the nipper to the thin portion of the joint.

Nipper

Cut the joint.

Bottom chassis ass'y

Bottom cover

1. Cut the joints (6 portions) between bottom cover and bottom chassis ass'y with nipper.

2. After cutting the joints (6 portions), bend the portions of the bottom chassis ass'y in the direction of arrow with pliers.

Unsold the terminals of power IC or regulator transistor

3. When replacing the power IC or regulator transistor, unsolder the terminals of power IC or regulator transistor on the soldered surface.

CAUTION

- After replacing the power IC or regulator transistor, apply a sufficient quantity of compound grease (RFKX0002) between the heat sink and the power IC or regulator transistor. (Radiation of power IC & transistor)
- Tighten enough the screws after replacing the power IC or regulator transistors. Otherwise, the heat radiation works little.

Offset screwdriver

Transistor holder

Power IC

Regulator transistor

4. Then remove the screws fixed to the power IC or transistor holder.

5. When installing or removing the power IC or transistor holder, be sure to use an offset screwdriver.

Bottom cover

*Upset the bottom cover

Screw (XTB3+8J)

Ribs

Bottom cover

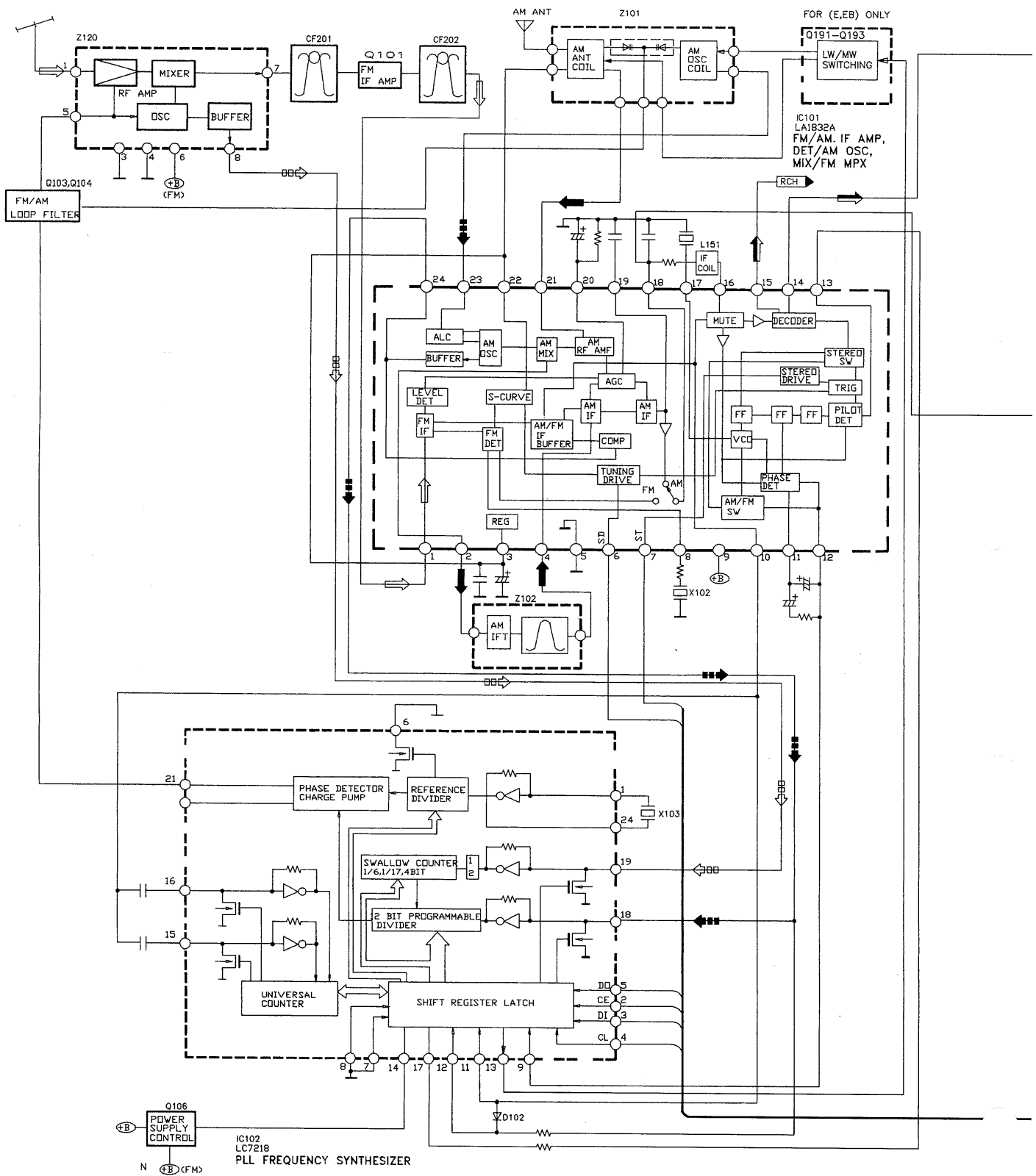
Bottom chassis ass'y

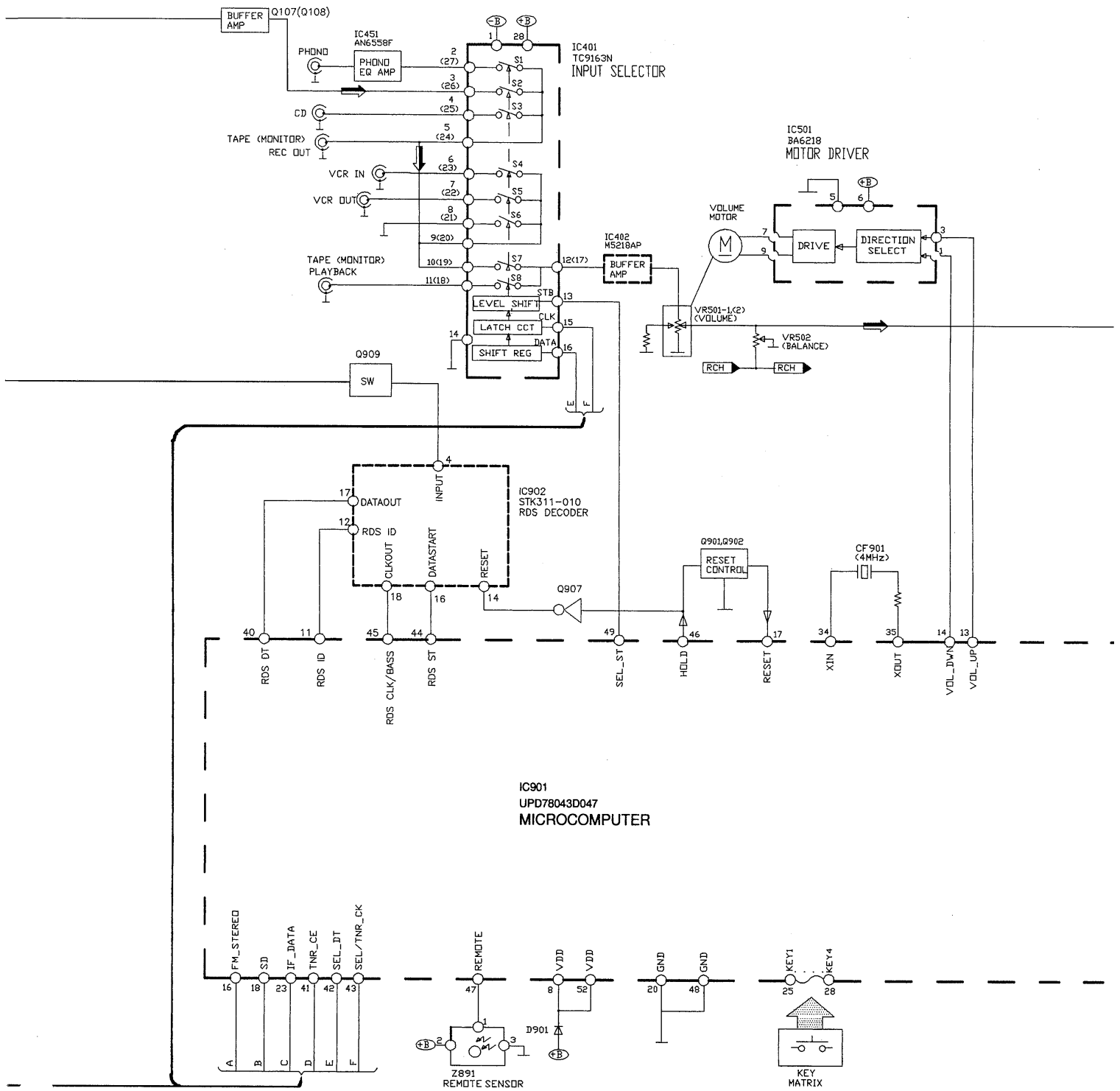
Lugs

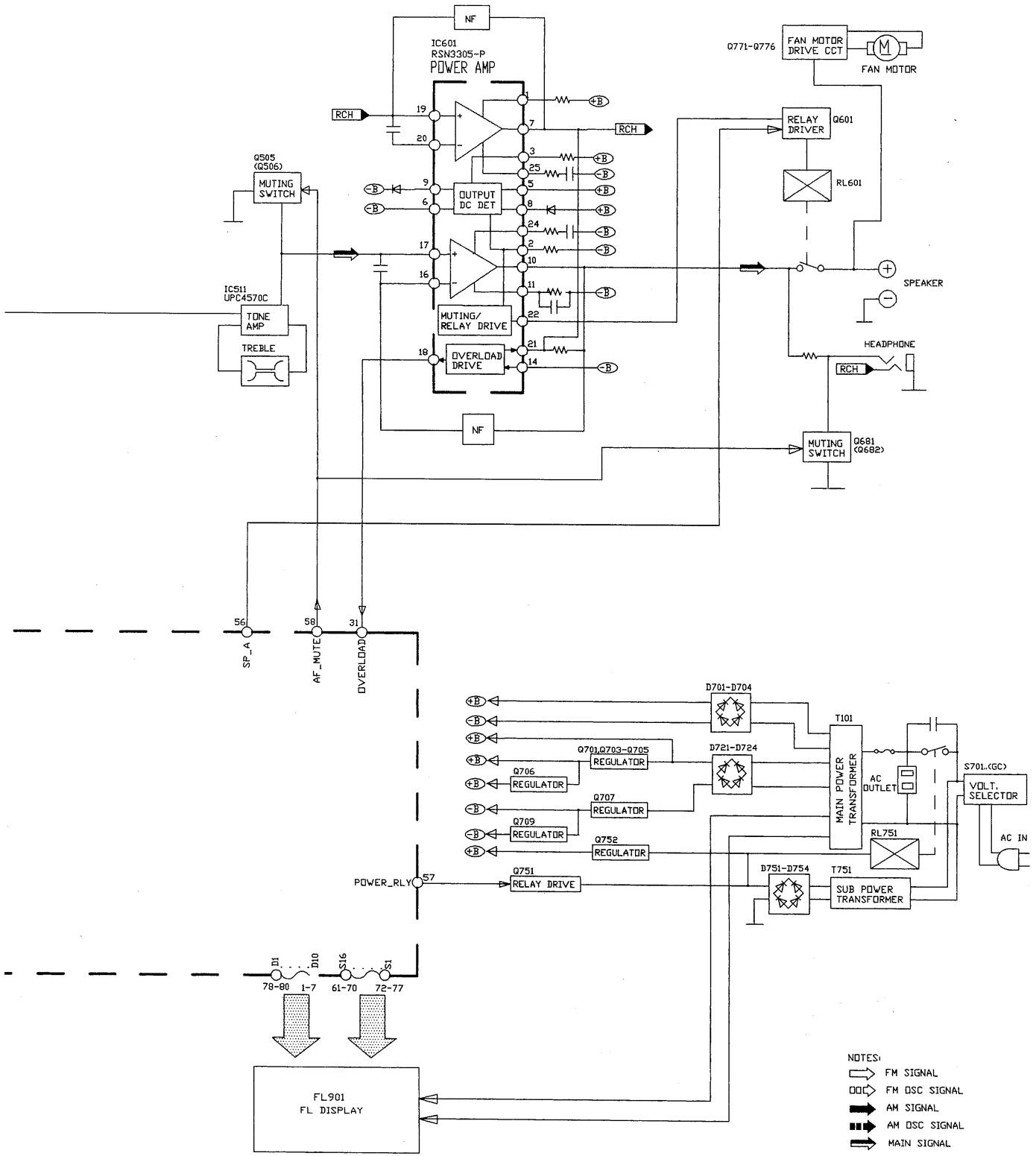
6. After replacing the power IC or regulator transistor, upset the bottom cover and align the ribs of the bottom cover to the lugs on the bottom chassis ass'y.

7. After mounting the bottom cover on the bottom chassis ass'y, fix it with a screw (XTB3+8J).

Block Diagram







- NOTES:
- FM SIGNAL
 - FM DSC SIGNAL
 - AM SIGNAL
 - AM DSC SIGNAL
 - MAIN SIGNAL

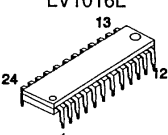
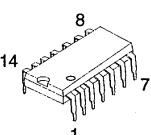
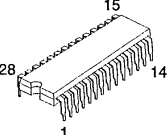
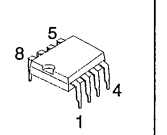
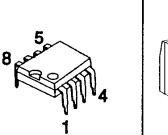
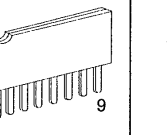
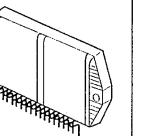
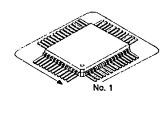
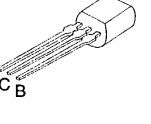
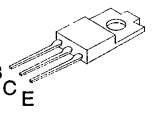
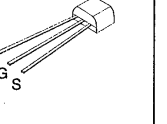
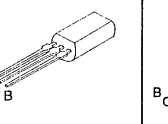
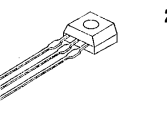
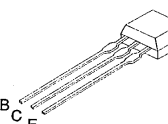
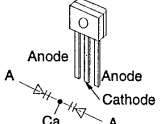
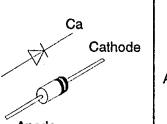
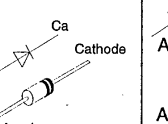
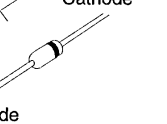
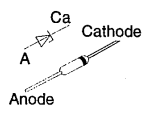
■ Terminal Functions Of ICs

• IC901 (M38B57M6101F) System Microprocessor

| Pin No. | Mark | I/O | Function |
|---------|---------------|-----|--|
| 1~2 | KEY2~KEY1 | I | Key Input 1 ~ 2 |
| 3 | THERM/OVLD1 | I | Thermal/Over load input 1 |
| 4 | KEY4 | I | Key Input 4 |
| 5 | THERM/OVLD2 | I | Thermal/Over load input 2 |
| 6 | FM_ST | I | Stereo signal detect terminal |
| 7 | WAKE_LED | O | Wake up timer LED |
| 8 | RDS_ST | I | Control of RDS IC (ST) stereo signal |
| 9 | REMOTE | I | Remote control terminal |
| 10 | RESET | – | Reset detect terminal |
| 11 | RDS_CK | I | Control of RDS IC (CK) clock signal |
| 12 | RDS_DT | I | Control of RDS IC (DT) data signal |
| 13 | GND | – | GND terminal |
| 14 | OCS | – | Crystal oscillator terminal (4 MHz) |
| 15 | OCS | – | Crystal oscillator terminal (4 MHz) |
| 16 | VDD (+5V) | – | Power supply terminal +5V |
| 17 | LED_IC_CK | O | LED driver IC (CK) clock signal |
| 18 | LED_IC_DT | O | LED driver IC (DT) data signal |
| 19 | SFC/PTY_ENCD1 | I | SFC mode encoder input 1 |
| 20 | SFC/PTY_ENCD2 | I | SFC mode encoder input 2 |
| 21 | SEL_ENCD1 | I | Selector encoder for input 1 |
| 22 | HOLD | I | Blackout detection terminal |
| 23 | SEL_ENCD2 | I | Selector encoder for input 2 |
| 24 | FRT_VCR2 | I | VCR2 control input |
| 25 | RELAY | – | Relay control output |
| 26 | ABS | O | ABS control output |
| 27 | 6ch_SW_ST | O | 6 ch sw control output (ST) |
| 28 | Vee (-22V) | – | Power supply for FL driver |
| 29 | S/C_SP | O | Surround/Center speaker control output |

| Pin No. | Mark | I/O | Function |
|---------|------------|-----|--|
| 30 | SP_B | O | Speaker B control output |
| 31 | SP_A | O | Speaker A control output |
| 32 | AF_MUTE | O | Muting control output |
| 33~48 | SEG16~SEG1 | O | FL segment signal output |
| 49~58 | DEG1~DEG10 | O | FL digit signal output |
| 59 | INIT_IN | I | Diode input initial settings |
| 60 | VOL_DOWN | O | Volume control output (Down) |
| 61 | VOL_UP | O | Volume control output (Up) |
| 62 | REC_MUTE | O | REC Mute control |
| 63 | IF_DATA | I | Serial data signal |
| 64 | LIMITTER | O | Power limiter control output |
| 65 | TNR_CE | O | Tuner control (CE) chip enable signal |
| 66 | SEL/TNR_CK | O | Selector/Tuner (CK) clock signal |
| 67 | SEL/TNR_DT | O | Selector/Tuner (DT) data signal |
| 68 | SEL_ST | O | Selector control terminal |
| 69 | MMD_CTRL | O | MMD control terminal |
| 70 | SURR_CK | O | Surround control (CK) clock signal |
| 71 | SURR_DT | O | Surround control (DT) data signal |
| 72 | SURR_CE | O | Surround control (CE) chip enable signal |
| 73 | AVSS | – | GND for A-D converter |
| 74 | VREF | – | Reference voltage for A-D converter |
| 75 | SD | I | SD signal detect input |
| 76 | SUR_ENCD1 | I | Encoder of surround mode selector input1 |
| 77 | HELP_LED | O | Help LED control output |
| 78 | SUR_ENCD2 | I | Encoder of surround mode selector input2 |
| 79 | VIDEO_A | O | Video selector control output A |
| 80 | VIDEO_B | O | Video selector control output B |

Terminal Guide of ICs, Transistors and Diodes

| | | | | | | |
|---|--|---|---|--|--|--|
| <p>LA1832A LC7218 LV1016L</p>  | <p>M5218AP</p>  | <p>TC9163AN</p>  | <p>UPC4570C</p>  | <p>AN6558F</p>  | <p>BA6218</p>  | <p>RSN3305-P</p>  |
| <p>M38B53M4055F LC72721N</p>  | <p>2SB621AQSTA</p>  | <p>2SD2374PQAU</p>  | <p>SB360L6508</p>  | <p>2SC3940AQSTA</p>  | <p>2SC2785FETA</p>  | <p>2SC2787FL1TA 2SC2787LTA 2SD1915FTA 2SC3311ARTA</p> |
| <p>2SC1740SSTA</p>  | <p>RVTDTA143XST RVTDTC143XST RVTDTA114YST RVTDTC114YST</p> | <p>SVC211SPA-AL</p>  | <p>LN846RPH</p>  | <p>1N5402BM21</p>  |  | <p>RVD1SS133TA 1SR35200TB MA700ATA 1SS291TA MA167ATA MA165TA</p> |
| <p>MTZJ16CTA MTZJ24DTA</p>  | <p>MTZJ3R9ATA MTZJ4R7BTA MTZJ5R1BTA MTZJ6R2BTA MTZJ6R8BTA MTZJ7R5CTA</p> | | | | | |

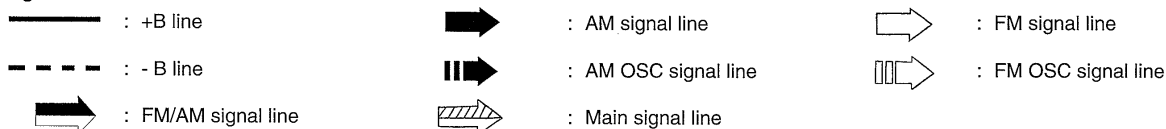
■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

| | | | | | |
|--------|---|------------------------|---------|---|------------------------|
| • S946 | : | Power switch | • S964 | : | VCR switch |
| • S947 | : | PHONO switch | • S970 | : | Search switch |
| • S948 | : | Muting switch | • S971 | : | Eon switch |
| • S950 | : | FM Mode switch | • S972 | : | Pty select up switch |
| • S951 | : | Band select switch | • S973 | : | Pty select down switch |
| • S952 | : | Tuning decrease switch | • S974 | : | Display mode switch |
| • S953 | : | Tuning increase switch | • S976 | : | DVD 6CH switch |
| • S955 | : | Memory switch | • S980 | : | Speakers switch |
| • S956 | : | CH/DOWN switch | | | |
| • S957 | : | CH/UP switch | • VR501 | : | Volume control |
| • S960 | : | Tuner switch | • VR502 | : | Balance control |
| • S961 | : | CD switch | • VR511 | : | Bass control |
| • S962 | : | Tape switch | • VR512 | : | Treble control |

• Signal line



- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

< > FM NO MARK TAPE () AM

• Importance safety notice:

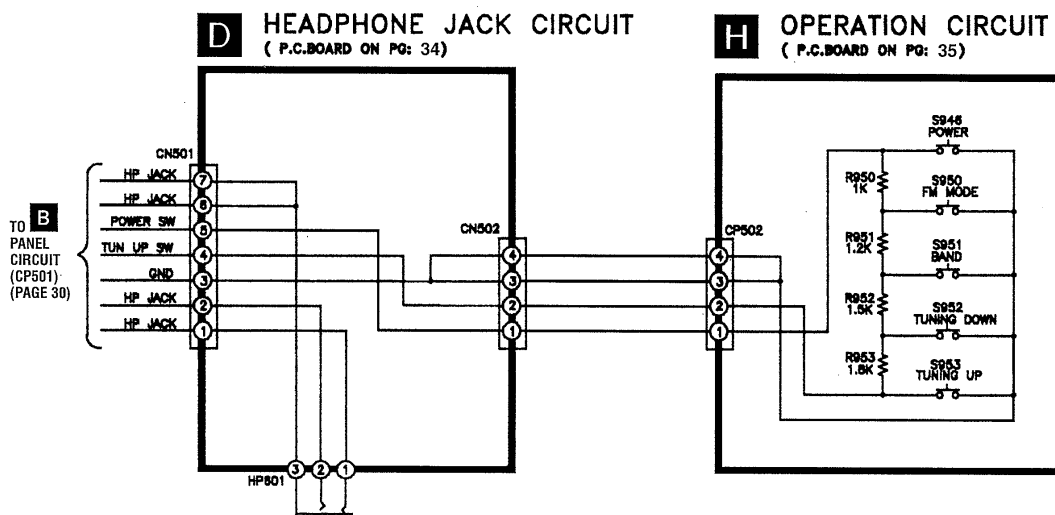
Components identified by \triangle mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

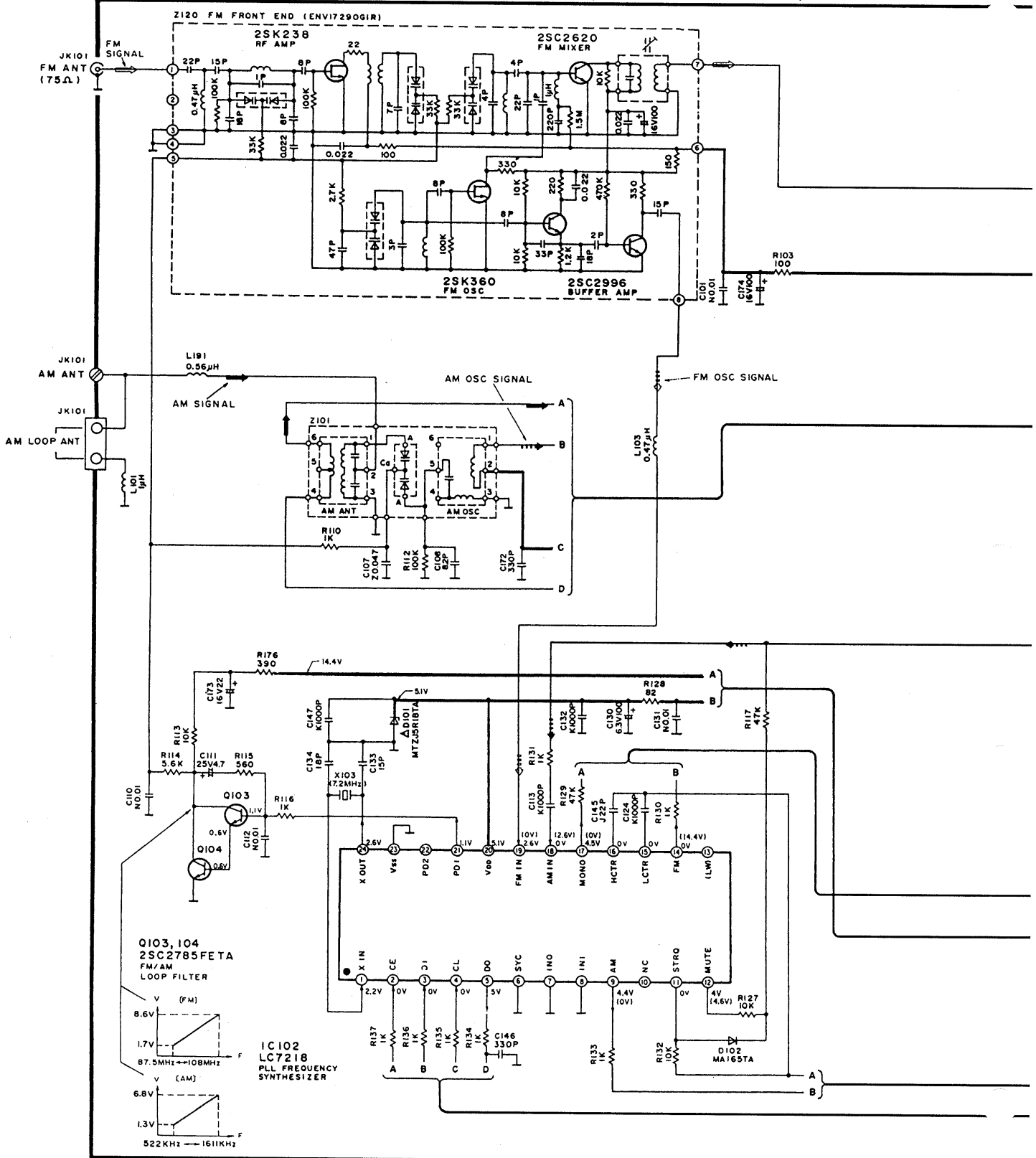
- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.
- Put a conductive mat on the work table.



A TUNER CIRCUIT For (EG) area (P.C.BOARD ON PG. 36)

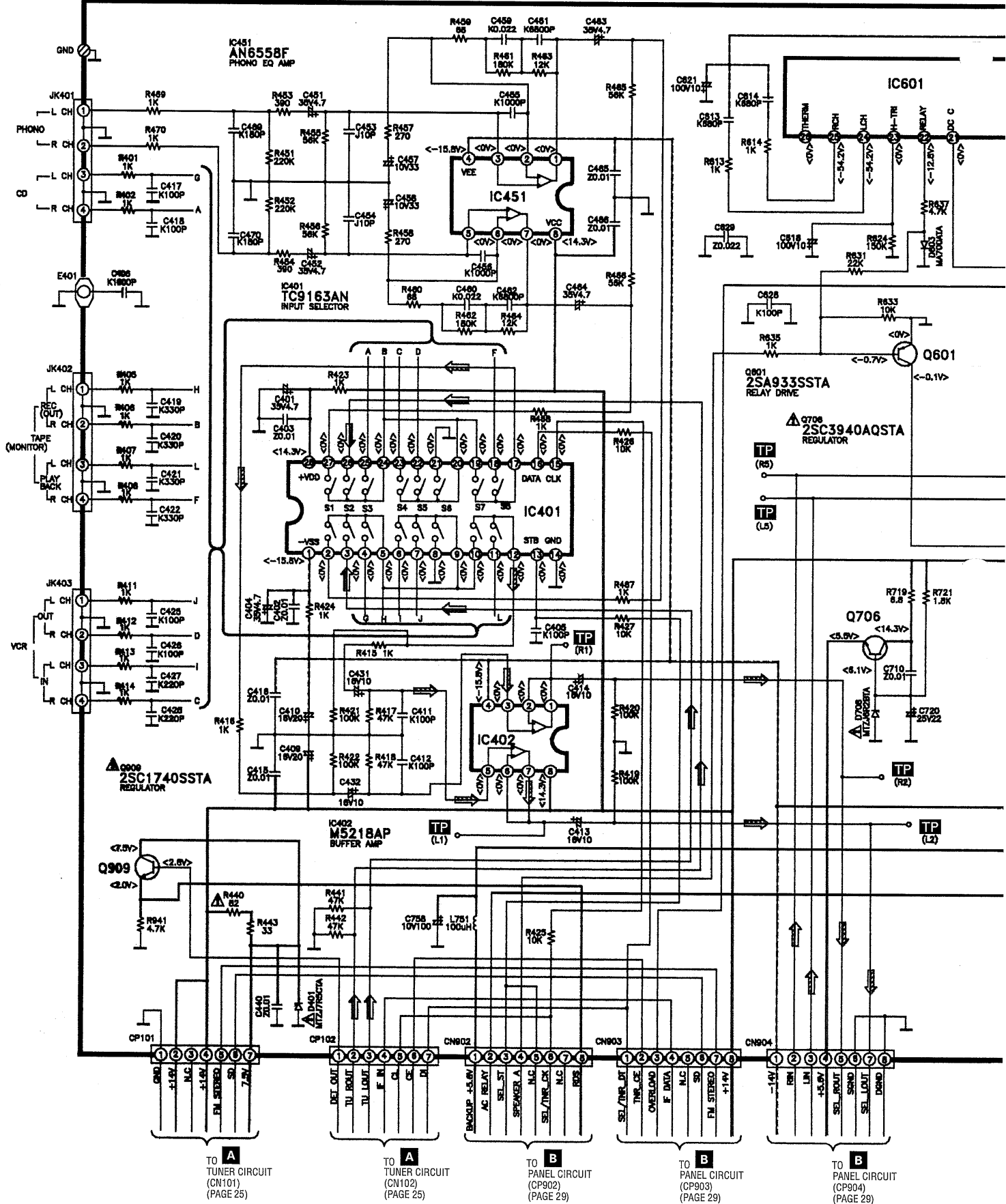
⇨ : FM OSC Signal Line
⇨ : FM Signal Line

⇨ : AM OSC Signal Line
⇨ : AM Signal Line



E MAIN CIRCUIT (P.C. BOARD ON PG.32)

⇨ : Main Signal Line ⇨ : FM/AM Signal Line



TO **A**
TUNER CIRCUIT
(CP101)
(PAGE 25)

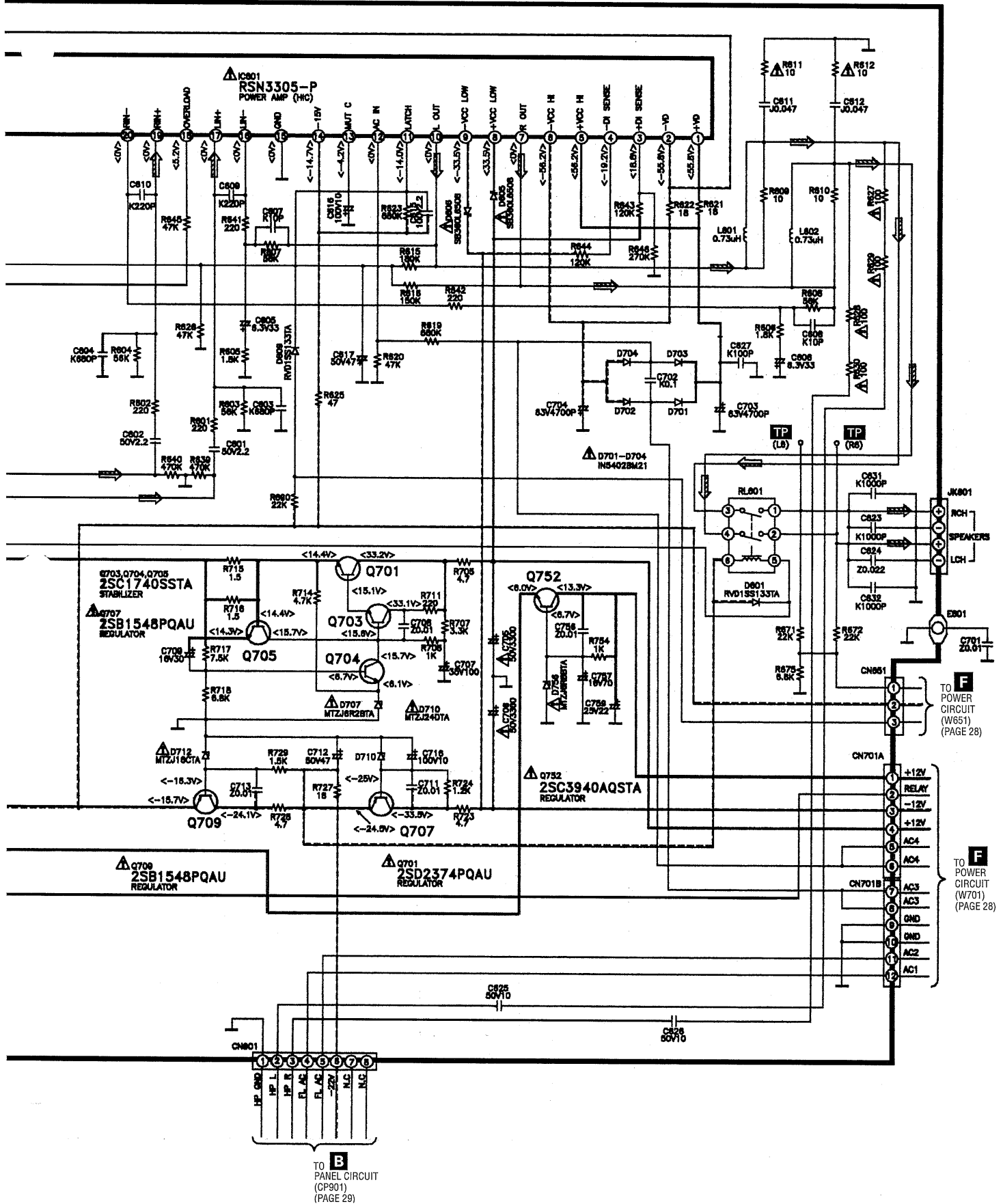
TO **A**
TUNER CIRCUIT
(CP902)
(PAGE 25)

TO **B**
PANEL CIRCUIT
(CP902)
(PAGE 29)

TO **B**
PANEL CIRCUIT
(CP903)
(PAGE 29)

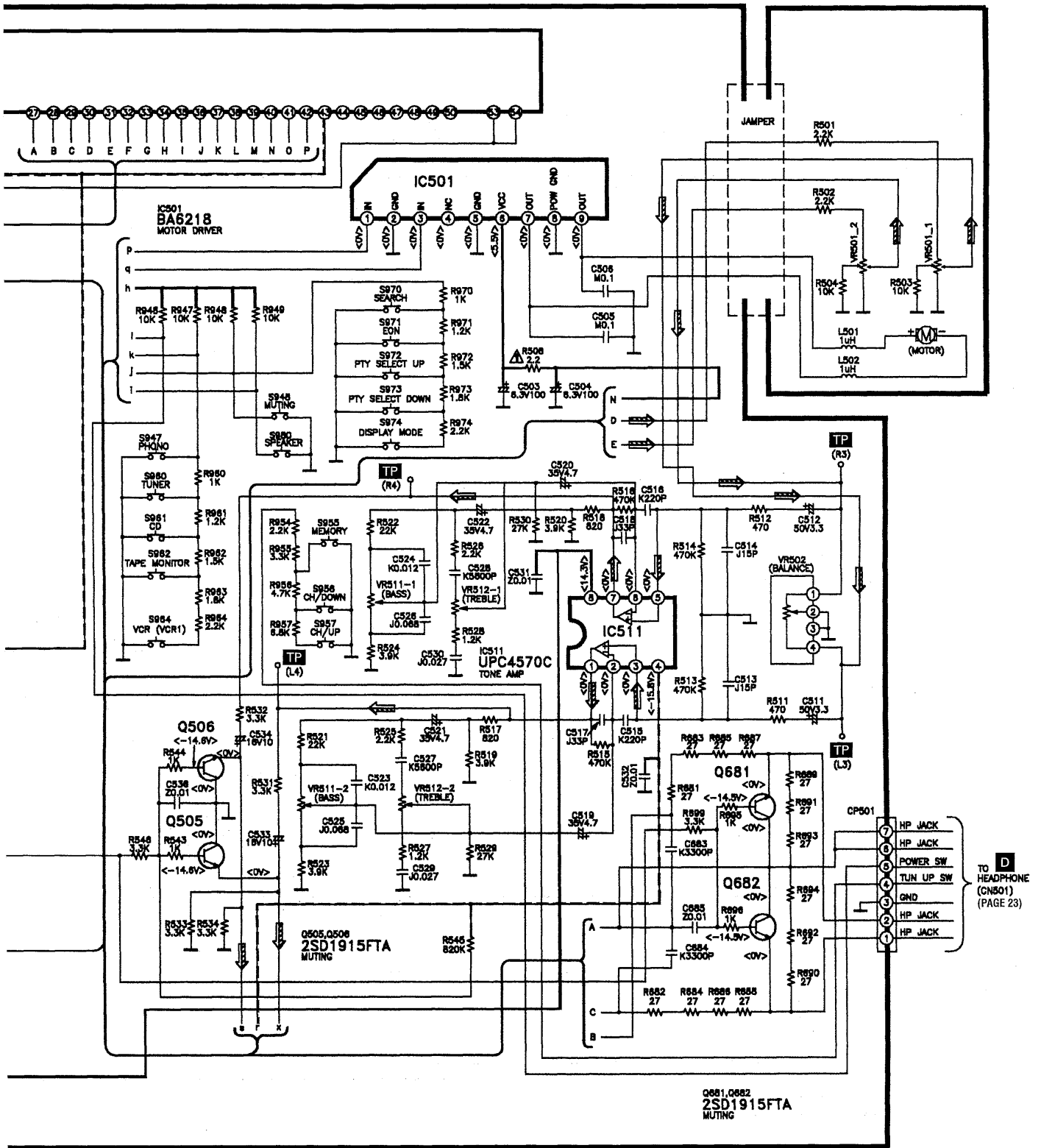
TO **B**
PANEL CIRCUIT
(CP904)
(PAGE 29)

⇨ : Main Signal Line

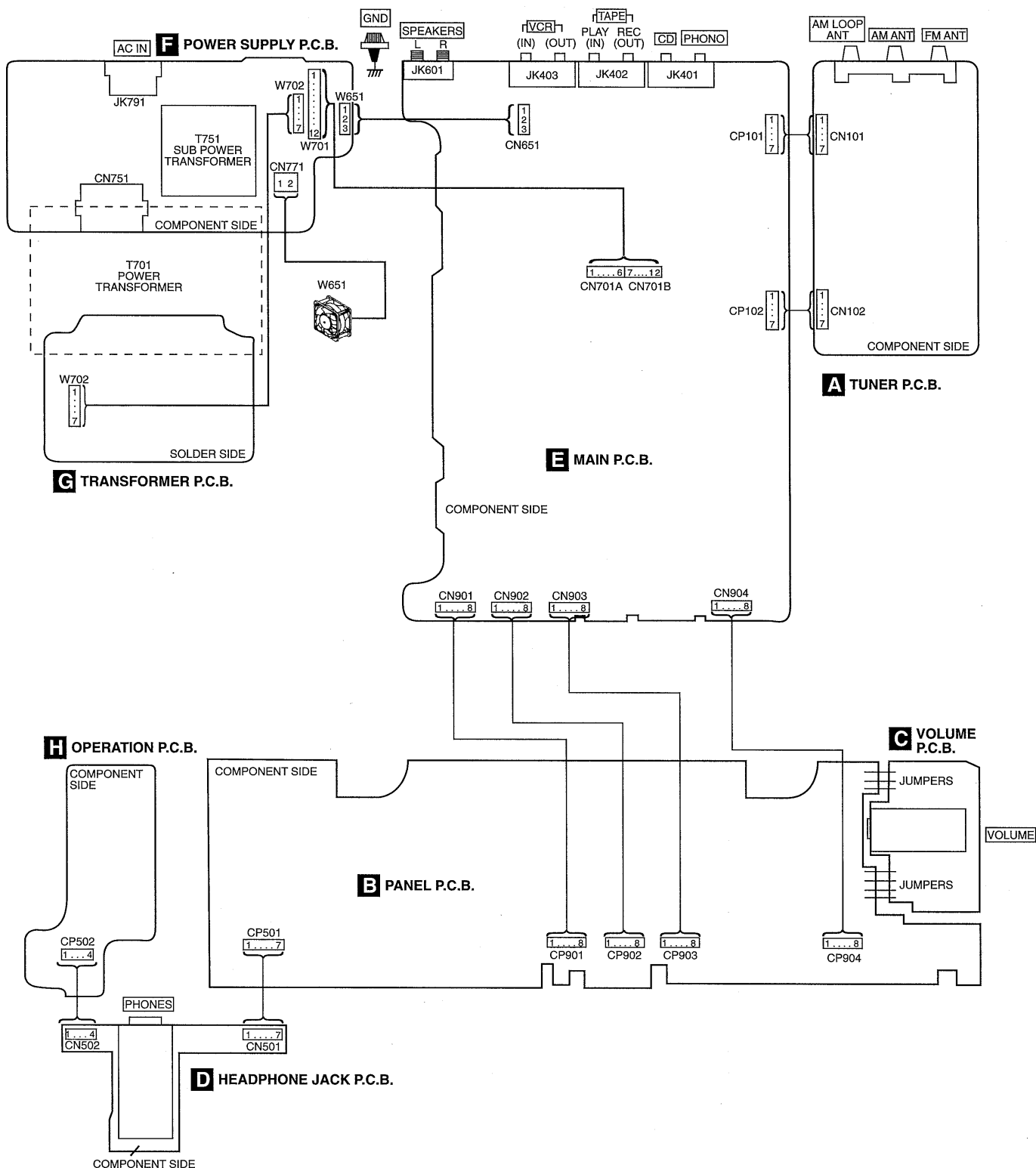


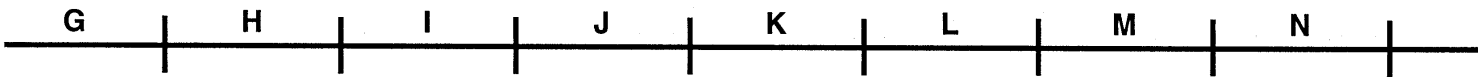
→ : Main Signal Line

C VOLUME CIRCUIT
(P.C. BOARD ON PG.34)



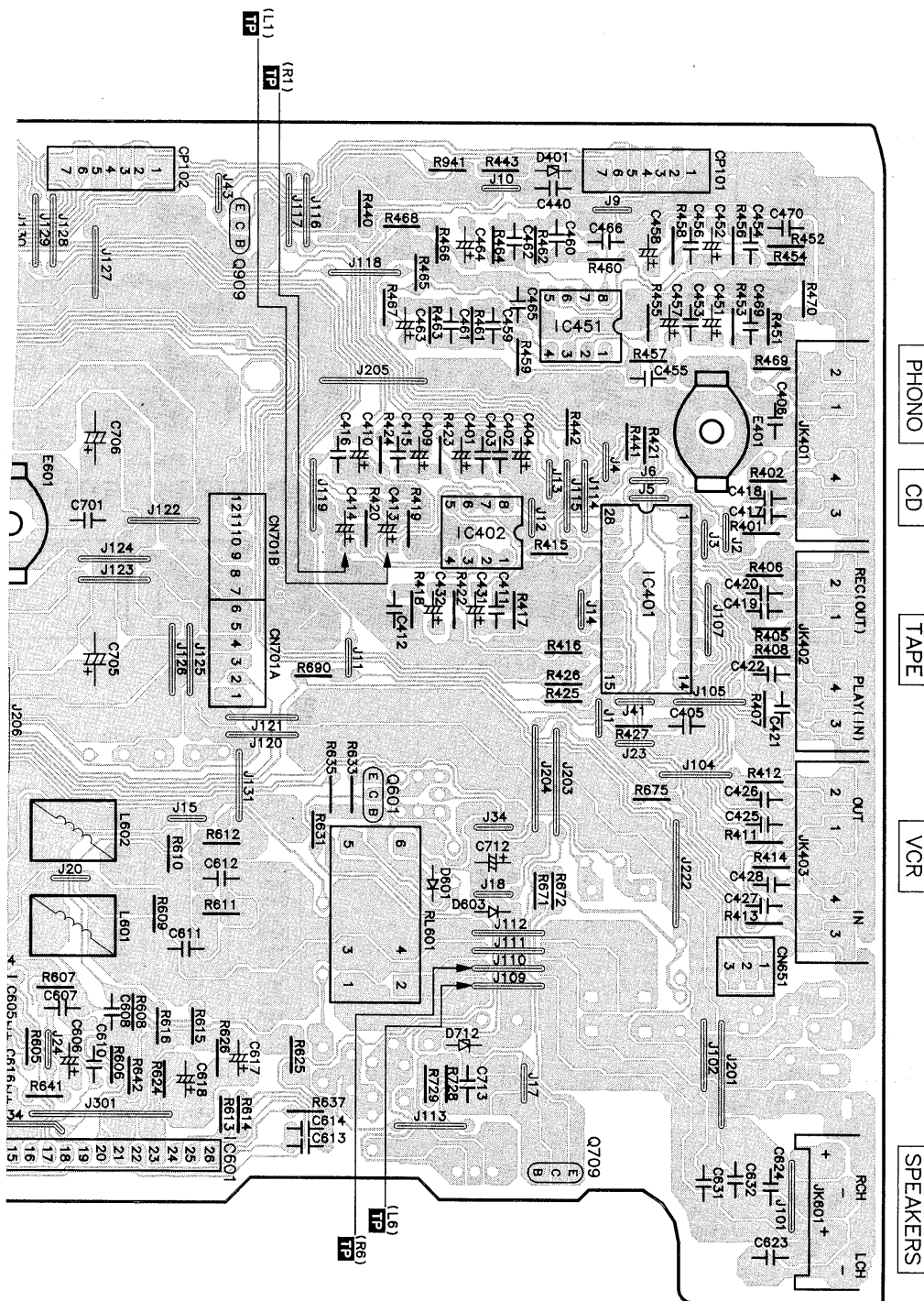
Wiring Connection Diagram



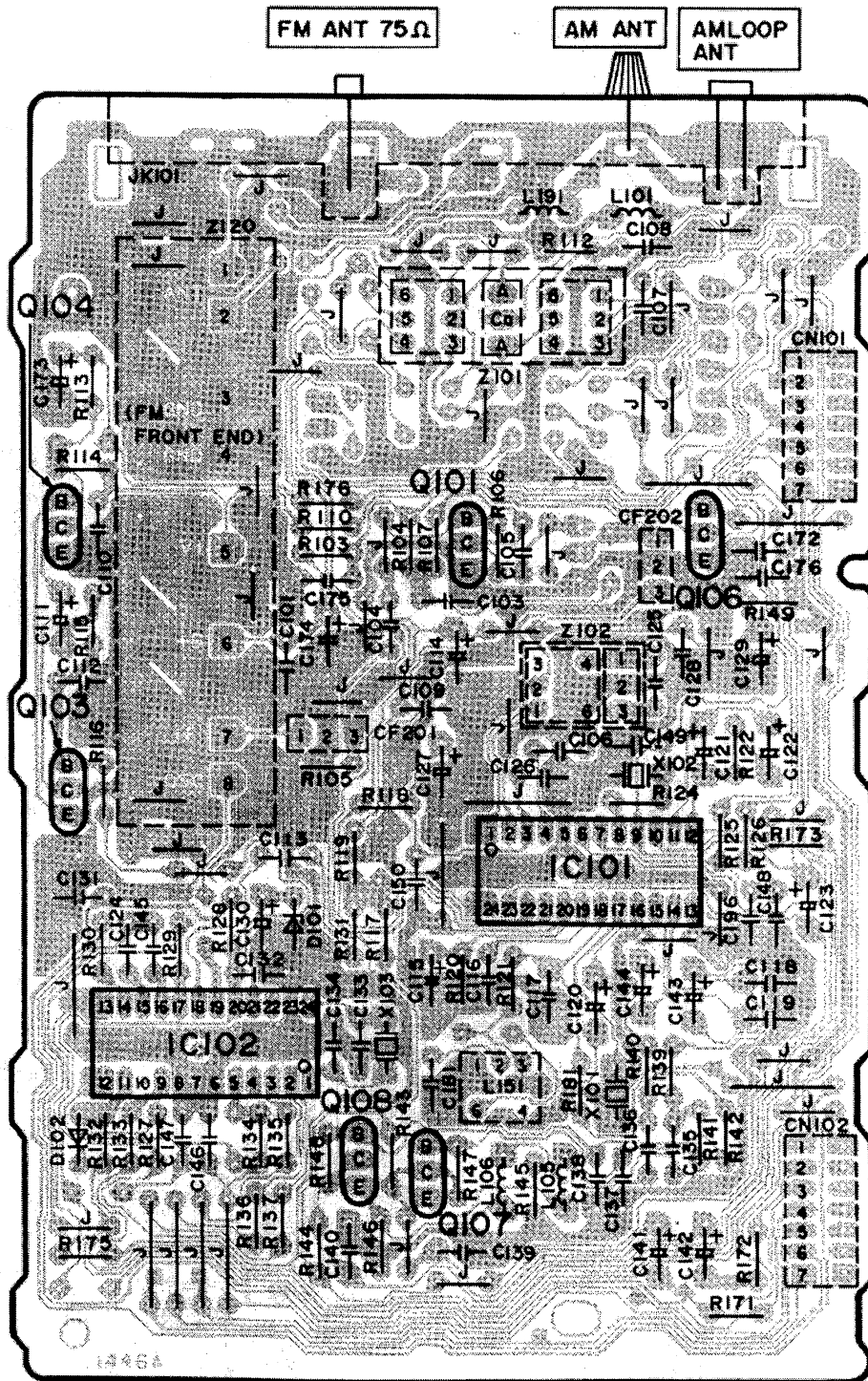


Parts Location Table

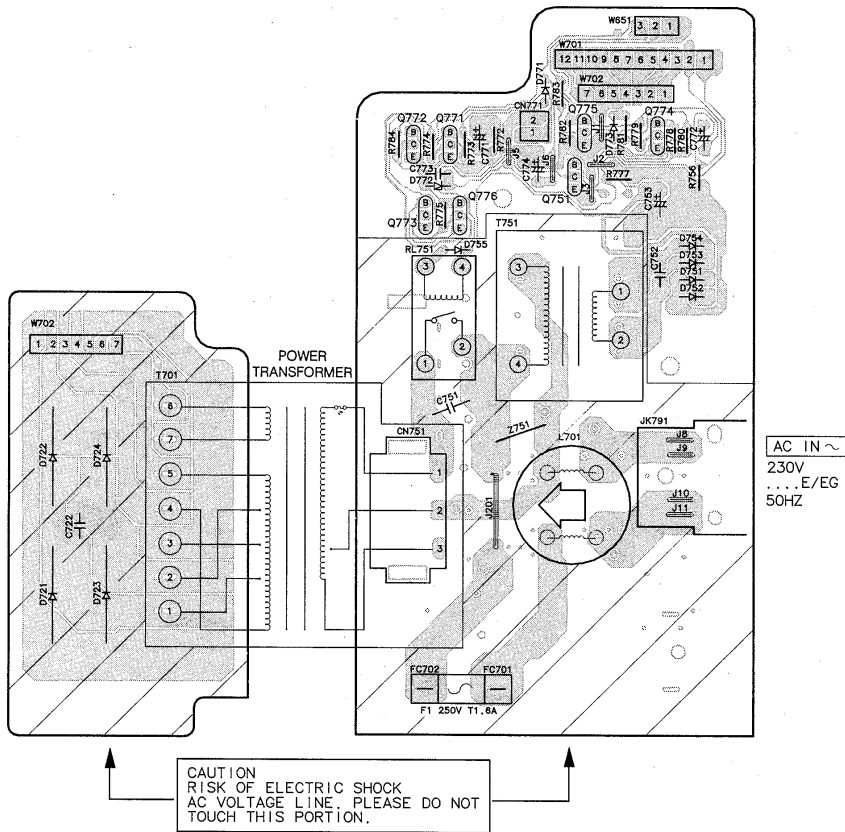
| Ref No. | Loc. No. |
|---------|----------|
| CN651 | L8 |
| CN701A | I6 |
| CN701B | I5 |
| CN901 | B9 |
| CN902 | B7 |
| CN903 | B6 |
| CN904 | B4 |
| CP101 | L3 |
| CP102 | H3 |
| D401 | K3 |
| D601 | J7 |
| D603 | J7 |
| D605 | F7 |
| D606 | F7 |
| D609 | E7 |
| D701 | F4 |
| D702 | E5 |
| D703 | E4 |
| D704 | E5 |
| D707 | D8 |
| D708 | D7 |
| D710 | E8 |
| D712 | J8 |
| D756 | D7 |
| E401 | L4 |
| E601 | G5 |
| IC401 | K5 |
| IC402 | J5 |
| IC601 | K4 |
| IC451 | H9 |
| JK401 | M4 |
| JK402 | M5 |
| JK403 | M7 |
| JK601 | M9 |
| L601 | H7 |
| L602 | H7 |
| L751 | C7 |
| Q601 | J7 |
| Q701 | D9 |
| Q703 | D8 |
| Q704 | D8 |
| Q705 | D8 |
| Q706 | D7 |
| Q707 | E9 |
| Q709 | K9 |
| Q752 | D7 |
| Q909 | I3 |
| RL601 | J7 |



A TUNER P.C.B. (REP2158A-T ..EG)
(REP2158D-T ..E,EB)

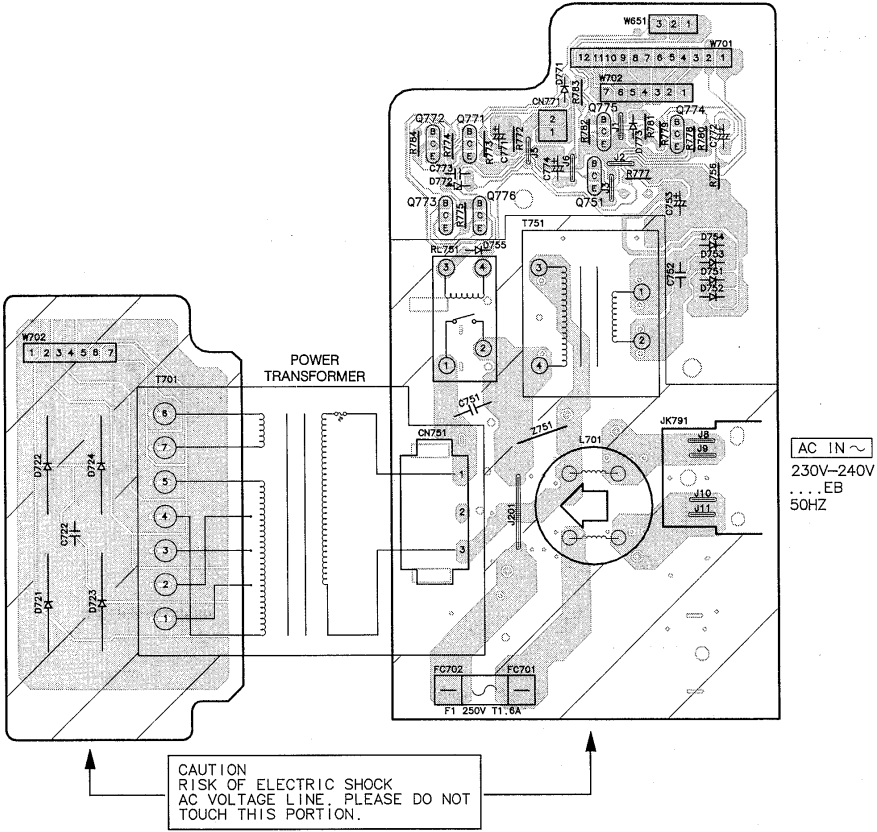


G TRANSFORMER P.C.B. (REP2675A-P ..E,EG)



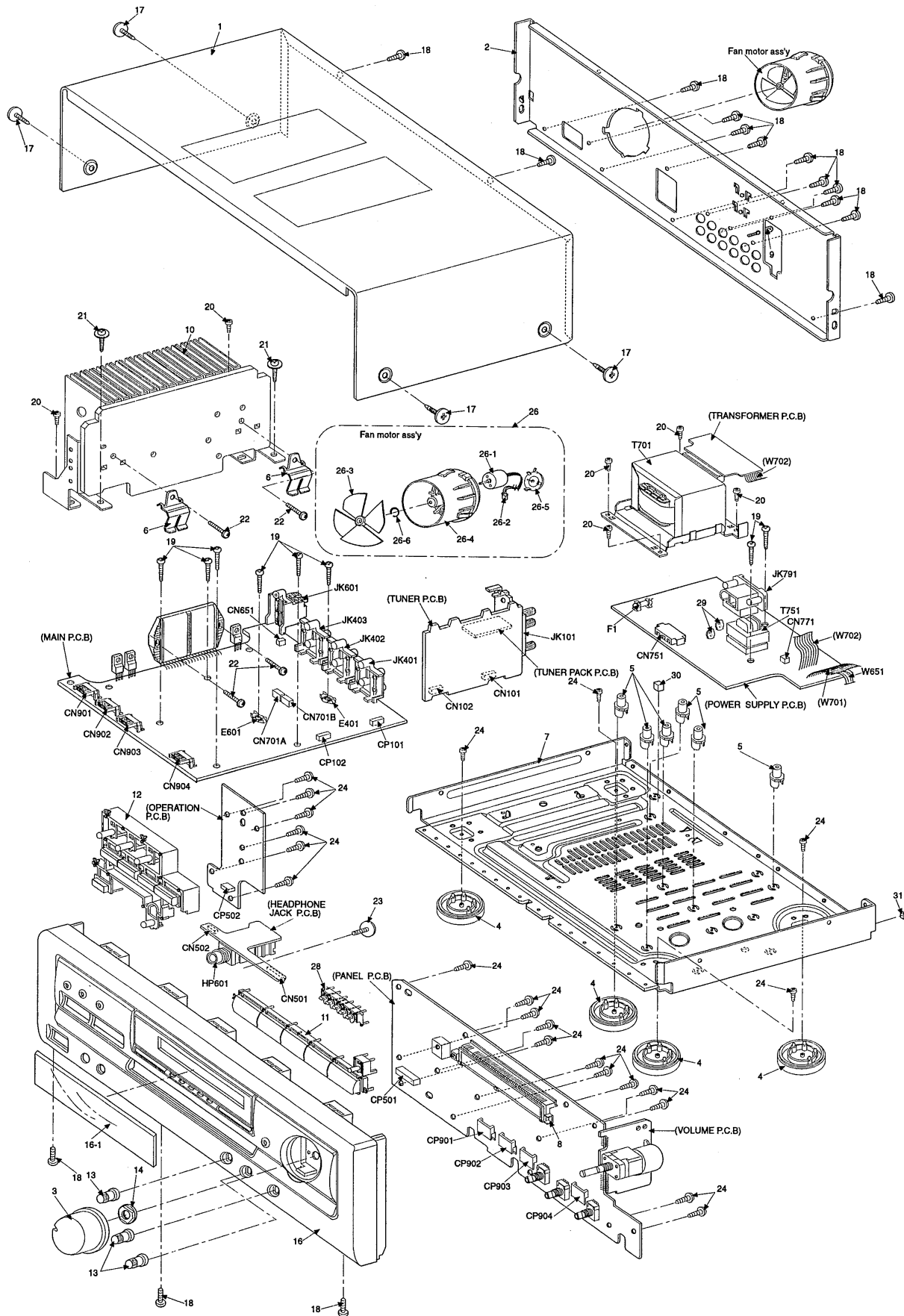
F POWER SUPPLY P.C.B. (REP2675A-P ..E,EG)

G TRANSFORMER P.C.B. (REP2675B-P ..EB)



F POWER SUPPLY P.C.B. (REP2675B-P ..EB)

Cabinet Parts Location



Replacement Parts List

Notes : * Important safety notice:
 Components identified by \triangle mark have special characteristics important for safety.
 Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
 When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
 * The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
 Parts without these indication can be used for all areas.
 * [M] in Remarks column indicates parts that are supplied by MESA.





| Ref No. | Part No. | Part Name & Description | Remarks | Ref No. | Part No. | Part Name & Description | Remarks | Ref No. | Part No. | Part Name & Description | Remarks |
|---------|--------------|----------------------------|---------|---------|---------------|----------------------------|---------|---------|---------------|-------------------------|---------|
| | | CABINET AND CHASSIS | | | | INTEGRATED CIRCUITS | | Q775 | 2SA933SSTA | TRANSISTOR | [M] |
| 1 | RKM0374B-K | TOP CABINET | [M] | IC101 | LA1832A | IC, IF/MPX | [M] | Q776 | 2SA933SSTA | TRANSISTOR | [M] |
| 2 | RGR0178F-E | REAR PANEL | [M]EG E | IC102 | LC7218 | IC, PLL | [M] | Q901 | RVTDTTC114YST | TRANSISTOR | [M] |
| 2 | RGR0178F-F | REAR PANEL | [M]EB | IC401 | TC9163AN | IC, SELECTOR | [M] | Q902 | 2SA933SSTA | TRANSISTOR | [M] |
| 3 | RGW0243A-K | VOLUME KNOB | [M] | IC402 | M5218AP | IC, BUFFER AMP | [M] | Q909 | 2SC1740SSTA | TRANSISTOR \triangle | [M] |
| 4 | RKA0079-A | FOOT | [M] | IC451 | AN6558F | IC, OP AMP | [M] | Q937 | RVTDTA114YST | TRANSISTOR | [M] |
| 5 | RKQ0089-J | PCB HOLDER | [M] | IC501 | BA6218 | IC, MOTOR DRIVER | [M] | | | DIODES | |
| 6 | RMC0158-S | TRANSISTOR HOLDER | [M] | IC511 | UPC4570C | IC, TONE CONTROL | [M] | D101 | MTZJ5R1BTA | DIODE | [M] |
| 7 | RMK0276 | BOTTOM CHASSIS | [M] | IC601 | RSN3305-P | IC, HIC \triangle | [M] | D102 | MA165TA | DIODE | [M] |
| 8 | RMN0372 | FL HOLDER | [M] | IC901 | M38B53M4055F | IC, MICOM | [M] | D401 | MTZJ7R5CTA | DIODE | [M] |
| 9 | SNE2123 | EARTH TERMINAL | [M] | IC902 | LC72721N | IC, RDS | [M] | D601 | RVD1SS133TA | DIODE | [M] |
| 10 | RXX0169 | HEAT SINK UNIT | [M] | | | TRANSISTORS | | D603 | MA700ATA | DIODE | [M] |
| 11 | RGU1349-K | SELECTOR BUTTON | [M] | Q101 | 2SC2787LTA | TRANSISTOR | [M] | D605 | SB360L6508 | DIODE \triangle | [M] |
| 12 | RGU1350-K | MODE BUTTON | [M] | Q103 | 2SC2785FETA | TRANSISTOR | [M] | D606 | SB360L6508 | DIODE \triangle | [M] |
| 13 | RGW0244-K | BASS TREBLE KNOB | [M] | Q104 | 2SC2785FETA | TRANSISTOR | [M] | D609 | RVD1SS133TA | DIODE | [M] |
| 14 | RHN90001 | M9 NUT | [M] | Q106 | RVTDTA143XST | TRANSISTOR | [M] | D701 | 1N5402BM21 | DIODE \triangle | [M] |
| 16 | RFKGEX120EBK | FRONT PANEL ASSY | [M] | Q107 | 2SC3311ARTA | TRANSISTOR | [M] | D702 | 1N5402BM21 | DIODE \triangle | [M] |
| 16-1 | RKW0436A-Q | WINDOW | [M] | Q108 | 2SC3311ARTA | TRANSISTOR | [M] | D703 | 1N5402BM21 | DIODE \triangle | [M] |
| 17 | SNE2129-1 | SCREW (CABINET) | [M] | Q108 | 2SC3311ARTA | TRANSISTOR | [M] | D704 | 1N5402BM21 | DIODE \triangle | [M] |
| 18 | XTBS3+8JFZ1 | SCREW | [M] | Q505 | 2SD1915FTA | TRANSISTOR | [M] | D707 | MTZJ6R2BTA | DIODE \triangle | [M] |
| 19 | XTB3+20JFZ | SCREW | [M] | Q506 | 2SD1915FTA | TRANSISTOR | [M] | D708 | MTZJ6R2BTA | DIODE \triangle | [M] |
| 20 | XTB3+8FFZ | SCREW | [M] | Q601 | 2SA933SSTA | TRANSISTOR | [M] | D710 | MTZJ24DTA | DIODE \triangle | [M] |
| 21 | XTWS3+8T | SCREW | [M] | Q681 | 2SD1915FTA | TRANSISTOR | [M] | D712 | MTZJ16CTA | DIODE \triangle | [M] |
| 22 | XTW3+15T | SCREW | [M] | Q682 | 2SD1915FTA | TRANSISTOR | [M] | D721 | 1N5402BM21 | DIODE \triangle | [M] |
| 23 | RHD26016 | SCREW | [M] | Q701 | 2SD2374PQAU | TRANSISTOR \triangle | [M] | D722 | 1N5402BM21 | DIODE \triangle | [M] |
| 24 | XTBS26+10J | SCREW | [M] | Q703 | 2SC1740SSTA | TRANSISTOR | [M] | D723 | 1N5402BM21 | DIODE \triangle | [M] |
| 26 | RYQ0173-K | FAN UNIT | [M] | Q704 | 2SC1740SSTA | TRANSISTOR | [M] | D724 | 1N5402BM21 | DIODE \triangle | [M] |
| 26-1 | MDN-4RB4MRC | MOTOR | [M] | Q705 | 2SC1740SSTA | TRANSISTOR | [M] | D751 | 1SR35200TB | DIODE \triangle | [M] |
| 26-2 | REX0811 | CONNECTOR UNIT | [M] | Q706 | 2SC3940AQSTA | TRANSISTOR \triangle | [M] | D752 | 1SR35200TB | DIODE \triangle | [M] |
| 26-3 | SHE232-1 | 64MM PROPELLER | [M] | Q707 | 2SB1548PQAU | TRANSISTOR \triangle | [M] | D753 | 1SR35200TB | DIODE \triangle | [M] |
| 26-4 | SHE233-1 | FAN CASE | [M] | Q709 | 2SB1548PQAU | TRANSISTOR \triangle | [M] | D754 | 1SR35200TB | DIODE \triangle | [M] |
| 26-5 | SHE234 | FAN CASE COVER | [M] | Q751 | RVTDTTC143XST | TRANSISTOR | [M] | D755 | RVD1SS133TA | DIODE \triangle | [M] |
| 26-6 | SUS271 | MOTOR SPRING | [M] | Q752 | 2SC3940AQSTA | TRANSISTOR \triangle | [M] | D756 | MTZJ6R8BTA | DIODE \triangle | [M] |
| 28 | RGU1352D-K | DOLBY BUTTON | [M] | Q771 | 2SA933SSTA | TRANSISTOR | [M] | D771 | RVD1SS133TA | DIODE | [M] |
| 29 | RMZ0339 | ZNR COVER | [M] | Q772 | 2SA933SSTA | TRANSISTOR | [M] | D772 | MTZJ6R8BTA | DIODE \triangle | [M] |
| 30 | RKQ0213-K | PCB SUPPORT | [M] | Q773 | 2SB621AQSTA | TRANSISTOR \triangle | [M] | D773 | RVD1SS133TA | DIODE | [M] |
| 31 | RMQ0670 | ADJUSTER SPACER | [M] | Q774 | 2SA933SSTA | TRANSISTOR | [M] | D901 | 1SS291TA | DIODE | [M] |





| Ref No. | Part No. | Part Name & Description | Remarks | Ref No. | Part No. | Part Name & Description | Remarks | Ref No. | Part No. | Part Name & Description | Remarks |
|---------|--------------|---------------------------|---------|---------|--------------|-------------------------|----------|---------|--------------|-------------------------|---------|
| D903 | MTZJ4R7BTA | DIODE | [M] | CN751 | SJS305-1 | 3P CONNECTOR | [M] | CF901 | RVCBST4R00MT | CERAMIC OSCILLATOR | [M] |
| D908 | MA167ATA | DIODE | [M] | CN771 | SJT3213 | FAN CONNECTOR | [M] | | | | |
| D909 | MA167ATA | DIODE | [M] | CN901 | RJU003K008M1 | BOAD IN CONNECTOR | [M] | | | RELAYS | |
| D921 | RVD1SS133TA | DIODE | [M] | CN902 | RJU003K008M1 | BOAD IN CONNECTOR | [M] | | | | |
| D923 | RVD1SS133TA | DIODE | [M] | CN903 | RJU003K008M1 | BOAD IN CONNECTOR | [M] | RL601 | RSY0013M-0 | RELAY | [M] |
| D924 | MTZJ3R9ATA | DIODE | [M] | CN904 | RJU003K008M1 | BOAD IN CONNECTOR | [M] | RL751 | RSY0019M-0 | 12V TV-5 RELAY | [M] ⚠ |
| D925 | RVD1SS133TA | DIODE | [M] | CP101 | RJT057W007-1 | 7P CONNECTOR | [M] | | | | |
| D929 | LN846RPH | DIODE | [M] | CP102 | RJT057W007-1 | 7P CONNECTOR | [M] | | | OSCILLATORS | |
| | | | | CP501 | RJT100W07 | 7P CONNECTOR | [M] | | | | |
| | | VARIABLE RESISTORS | | CP502 | RJT100W04 | 4P CONNECTOR | [M] | X101 | RSXZ456KM07M | CERAMIC OSCILLATOR | [M] |
| | | | | CP901 | RJT003K008M1 | 8P CONNECTOR | [M] | X102 | RLFDGTD01I | FM RESONATOR | [M] |
| VR501 | EUWMGB026B15 | VR, MOTOR VOLUME | [M] | CP902 | RJT003K008M1 | 8P CONNECTOR | [M] | X103 | SVQ49U722T-S | CRYSTAL 7.2MHZ | [M] |
| VR502 | EVJ02QF01G15 | VR, BALANCE CONTROL | [M] | CP903 | RJT003K008M1 | 8P CONNECTOR | [M] | X901 | RSXC4M33S02T | CRYSTAL 4.33 MHZ | [M] |
| VR511 | EVJYA1F01C15 | VR, TONE CONTROL | [M] | CP904 | RJT003K008M1 | 8P CONNECTOR | [M] | | | | |
| VR512 | EVJYA1F01C15 | VR, TONE CONTROL | [M] | | | | | | | DISPLAY TUBE | |
| | | | | | | | | | | | |
| | | SWITCHES | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | L101 | ELESN1R0MA | CHOKE COIL | [M] | FL901 | RSL0233-F | FL | [M] |
| S946 | EVQ21405R | SW, POWER | [M] | L103 | ELESTR47MA9 | CHOKE COIL | [M] | | | FUSES | |
| S947 | EVQ21405R | SW, PHONO | [M] | L105 | RLQZB822KT-D | TAPING COIL | [M] | | | | |
| S948 | EVQ21405R | SW, MUTING | [M] | L106 | RLQZB822KT-D | TAPING COIL | [M] | F1 | XBA2C16TB0 | FUSE | [M] ⚠ |
| S950 | EVQ21405R | SW, FM MODE | [M] | L151 | SLM1B10-1M | A.B. FILTER | [M] | | | | |
| S951 | EVQ21405R | SW, BAND | [M] | L191 | ELESNR56MA | CHOKE COIL | [M] | | | FUSE HOLDERS | |
| S952 | EVQ21405R | SW, TUNING DOWN | [M] | L501 | RLQZP1R0KT-Y | AXIAL COIL | [M] | | | | |
| S953 | EVQ21405R | SW, TUNING | [M] | L502 | RLQZP1R0KT-Y | AXIAL COIL | [M] | FC701 | RJR0169T | FUSE HOLDER | [M] |
| S955 | EVQ21405R | SW, MEMO | [M] | L601 | RLQYR73MW-E | CHOKE COIL | [M] | FC702 | RJR0169T | FUSE HOLDER | [M] |
| S956 | EVQ21405R | SW, CH/DOWN | [M] | L602 | RLQYR73MW-E | CHOKE COIL | [M] | | | | |
| S957 | EVQ21405R | SW, CH/UP | [M] | L701 | SLQZ650MH49 | AC LINE COIL | [M] ⚠ | | | JACKS | |
| S960 | EVQ21405R | SW, TUNER | [M] | L751 | ELESN101KA | CHOKE COIL | [M] | | | | |
| S961 | EVQ21405R | SW, CD | [M] | L901 | RLQB101KTA-Y | CHOKE COIL | [M] | HP601 | RJJ63TS01 | JK, HEADPHONES | [M] |
| S962 | EVQ21405R | SW, TAPE | [M] | L902 | RLQZP101KT-Y | AXIAL COIL | [M] | JK101 | RJH4202-1 | JK, ANT TERMINAL | [M] |
| S964 | EVQ21405R | SW, VCR | [M] | L903 | RLQZP101KT-Y | AXIAL COIL | [M] | JK401 | SJF3069N | JK, LINE | [M] |
| S970 | EVQ21405R | SW, SEARCH | [M] | T701 | RTP1N5B027-X | POWER TRANSFORMER | [M] ⚠ | JK402 | SJF3069N | JK, LINE | [M] |
| S971 | EVQ21405R | SW, EON | [M] | T751 | RTP15E003-V | SUB POWER TRANSFORMER | [M] ⚠ | JK403 | SJF3069N | JK, LINE | [M] |
| S972 | EVQ21405R | SW, PTY SELECT UP | [M] | | | | | JK601 | RJR0054 | JK, SP TERMINAL | [M] |
| S973 | EVQ21405R | SW, PTY SELECT DOWN | [M] | | | | | JK791 | SJS9236-1 | JK, AC INLET | [M] ⚠ |
| S974 | EVQ21405R | SW, DISPLAY MODE | [M] | | | | | | | | |
| S980 | EVQ21405R | SW, SPEAKER | [M] | | | | | | | EARTH TERMINALS | |
| | | | | Z101 | RLA2Z002M-T | AM ANT. COIL | [M] | | | | |
| | | | | Z102 | RLI2Z006M-T | AM IFT | [M] | E401 | SNE1004-2 | EARTH TERMINAL | [M] |
| | | CONNECTORS | | Z120 | ENV17290G1R | FM TUNER PACK | [M]JEG | E601 | SNE1004-2 | EARTH TERMINAL | [M] |
| | | | | Z120 | ENV17290G1Y | FM TUNER PACK | [M]JEB E | | | | |
| CN101 | RJU057W007 | 7P CONNECTOR | [M] | Z751 | ERZV10V511CS | ZNR | [M] ⚠ | | | | |
| CN102 | RJU057W007 | 7P CONNECTOR | [M] | Z891 | RCDSPS4242N | REMOTE SENSOR | [M] | | | WIRES | |
| CN501 | RJU100W07 | 7P CONNECTOR | [M] | | | | | | | | |
| CN502 | RJU100W04 | 4P CONNECTOR | [M] | | | | | | | | |
| CN651 | RJS1A6603T1 | 3P TAPING CONNECTOR | [M] | | | | | | | | |
| CN701A | RJS1A6606T1 | 6P STAPING CONNECTOR | [M] | | | | | | | | |
| CN701B | RJS1A6606T1 | 6P STAPING CONNECTOR | [M] | | | | | | | | |
| | | | | | | | | | | CERAMIC FILTERS | |
| | | | | CF201 | RLFFETNGD01L | CERAMIC CAPACITOR | [M] | W651 | RWJ1803190CQ | WIRE | [M] |
| | | | | CF202 | RLFFETMGD01L | CERAMIC FILTER | [M] | W701 | RWJ1812300CQ | WIRE | [M] |
| | | | | | | | | W702 | RWJ1807180CC | WIRE | [M] |

Resistors & Capacitors

Notes : * Important safety notice:
 Components identified by \triangle mark have special characteristics important for safety.
 Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
 When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
 * The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
 Parts without these indication can be used for all areas.
 * Capacitor values are in microfarad (μ F) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)
 * [M] in Remarks column indicates parts that are supplied by MESA.

| Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks |
|---------|------------------|-------------------|---------|--------------------------|------------------|---------|--------------------------|------------------|---------|--------------------------|------------------|
| | RESISTORS | | R144 | ERDS2TJ222T | 2.2K 1/4W [M] | R442 | ERDS2TJ473T | 47K 1/4W [M] | R523 | ERDS2TJ392T | 3.9K 1/4W [M] |
| | | | R145 | ERDS2TJ102T | 1K 1/4W [M]EB, E | R443 | ERDS2TJ330T | 33 1/4W [M] | R524 | ERDS2TJ392T | 3.9K 1/4W [M] |
| R103 | ERDS2TJ101T | 100 1/4W [M] | R145 | ERDS2TJ561T | 560 1/4W [M]EG | R451 | ERDS2TJ224T | 220K 1/4W [M] | R525 | ERDS2TJ222T | 2.2K 1/4W [M] |
| R104 | ERDS2TJ102T | 1K 1/4W [M] | R146 | ERDS2TJ102T | 1K 1/4W [M]EB, E | R452 | ERDS2TJ224T | 220K 1/4W [M] | R526 | ERDS2TJ222T | 2.2K 1/4W [M] |
| R105 | ERDS2TJ471T | 470 1/4W [M] | R146 | ERDS2TJ561T | 560 1/4W [M]EG | R453 | ERDS2TJ391T | 390 1/4W [M] | R527 | ERDS2TJ122T | 1.2K 1/4W [M] |
| R106 | ERDS2TJ224T | 220K 1/4W [M] | R147 | ERDS2TJ474T | 470K 1/4W [M] | R454 | ERDS2TJ391T | 390 1/4W [M] | R528 | ERDS2TJ122T | 1.2K 1/4W [M] |
| R107 | ERDS2TJ471T | 470 1/4W [M] | R148 | ERDS2TJ474T | 470K 1/4W [M] | R455 | ERDS2TJ563T | 56K 1/4W [M] | R529 | ERDS2TJ273T | 27K 1/4W [M] |
| R110 | ERDS2TJ102T | 1K 1/4W [M] | R149 | ERDS2TJ680T | 68 1/4W [M] | R456 | ERDS2TJ563T | 56K 1/4W [M] | R530 | ERDS2TJ273T | 27K 1/4W [M] |
| R112 | ERDS2TJ104T | 100K 1/4W [M] | R171 | ERDS2TJ102T | 1K 1/4W [M] | R457 | ERDS2TJ271T | 270 1/4W [M] | R531 | ERDS2TJ332T | 3.3K 1/4W [M] |
| R113 | ERDS2TJ103T | 10K 1/4W [M] | R172 | ERDS2TJ102T | 1K 1/4W [M] | R458 | ERDS2TJ271T | 270 1/4W [M] | R532 | ERDS2TJ332T | 3.3K 1/4W [M] |
| R114 | ERDS2TJ562T | 5.6K 1/4W [M] | R173 | ERDS2TJ471T | 470 1/4W [M] | R459 | ERDS2TJ680T | 68 1/4W [M] | R533 | ERDS2TJ332T | 3.3K 1/4W [M] |
| R115 | ERDS2TJ561T | 560 1/4W [M] | R175 | ERDS2TJ102T | 1K 1/4W [M] | R460 | ERDS2TJ680T | 68 1/4W [M] | R534 | ERDS2TJ332T | 3.3K 1/4W [M] |
| R116 | ERDS2TJ102T | 1K 1/4W [M] | R176 | ERDS2TJ391T | 390 1/4W [M] | R461 | ERDS2TJ184T | 180K 1/4W [M] | R543 | ERDS2TJ102T | 1K 1/4W [M] |
| R117 | ERDS2TJ473T | 47K 1/4W [M] | R181 | ERDS2TJ332T | 3.3K 1/4W [M] | R462 | ERDS2TJ184T | 180K 1/4W [M] | R544 | ERDS2TJ102T | 1K 1/4W [M] |
| R118 | ERDS2TJ562T | 5.6K 1/4W [M] | R401 | ERDS2TJ102T | 1K 1/4W [M] | R463 | ERDS2TJ123T | 12K 1/4W [M] | R545 | ERDS2TJ824T | 820K /4W [M] |
| R119 | ERDS2TJ183T | 18K 1/4W [M] | R402 | ERDS2TJ102T | 1K 1/4W [M] | R464 | ERDS2TJ123T | 12K 1/4W [M] | R546 | ERDS2TJ332T | 3.3K 1/4W [M] |
| R120 | ERDS2TJ473T | 47K 1/4W [M] | R405 | ERDS2TJ102T | 1K 1/4W [M] | R465 | ERDS2TJ563T | 56K 1/4W [M] | R601 | ERDS2TJ221T | 220 1/4W [M] |
| R121 | ERDS2TJ332T | 3.3K 1/4W [M] | R406 | ERDS2TJ102T | 1K 1/4W [M] | R466 | ERDS2TJ563T | 56K 1/4W [M] | R602 | ERDS2TJ221T | 220 1/4W [M] |
| R122 | ERDS2TJ272T | 2.7K 1/4W [M] | R407 | ERDS2TJ102T | 1K 1/4W [M] | R467 | ERDS2TJ102T | 1K 1/4W [M] | R603 | ERDS2TJ563T | 56K 1/4W [M] |
| R124 | ERDS2TJ221T | 220 1/4W [M]EG | R408 | ERDS2TJ102T | 1K 1/4W [M] | R468 | ERDS2TJ102T | 1K 1/4W [M] | R604 | ERDS2TJ563T | 56K 1/4W [M] |
| R124 | ERDS2TJ271T | 270 1/4W [M]EB, E | R411 | ERDS2TJ102T | 1K 1/4W [M] | R469 | ERDS2TJ102T | 1K 1/4W [M] | R605 | ERDS2TJ182T | 1.8K 1/4W [M] |
| R125 | ERDS2TJ472T | 4.7K 1/4W [M] | R412 | ERDS2TJ102T | 1K 1/4W [M] | R470 | ERDS2TJ102T | 1K 1/4W [M] | R606 | ERDS2TJ182T | 1.8K 1/4W [M] |
| R126 | ERDS2TJ472T | 4.7K 1/4W [M] | R413 | ERDS2TJ102T | 1K 1/4W [M] | R501 | ERDS2TJ222T | 2.2K 1/4W [M] | R607 | ERDS2TJ563T | 56K 1/4W [M] |
| R127 | ERDS2TJ103T | 10K 1/4W [M] | R414 | ERDS2TJ102T | 1K 1/4W [M] | R502 | ERDS2TJ222T | 2.2K 1/4W [M] | R608 | ERDS2TJ563T | 56K 1/4W [M] |
| R128 | ERDS2TJ820T | 82 1/4W [M] | R415 | ERDS2TJ102T | 1K 1/4W [M] | R503 | ERDS2TJ103T | 10K 1/4W [M] | R609 | ERDS2TJ100T | 10 1/4W [M] |
| R129 | ERDS2TJ473T | 47K 1/4W [M] | R416 | ERDS2TJ102T | 1K 1/4W [M] | R504 | ERDS2TJ103T | 10K 1/4W [M] | R610 | ERDS2TJ100T | 10 1/4W [M] |
| R130 | ERDS2TJ102T | 1K 1/4W [M] | R417 | ERDS2TJ473T | 47K 1/4W [M] | R508 | ERDS1FVJ2R2T \triangle | 2.2 1/2W [M] | R611 | ERDS1FVJ100T \triangle | 10 1/2W [M] |
| R131 | ERDS2TJ102T | 1K 1/4W [M] | R418 | ERDS2TJ473T | 47K 1/4W [M] | R511 | ERDS2TJ471T | 470 1/4W [M] | R612 | ERDS1FVJ100T \triangle | 10 1/2W [M] |
| R132 | ERDS2TJ103T | 10K 1/4W [M] | R419 | ERDS2TJ104T | 100K 1/4W [M] | R512 | ERDS2TJ471T | 470 1/4W [M] | R613 | ERDS2TJ102T | 1K 1/4W [M] |
| R133 | ERDS2TJ102T | 1K 1/4W [M] | R420 | ERDS2TJ104T | 100K 1/4W [M] | R513 | ERDS2TJ474T | 470K 1/4W [M] | R614 | ERDS2TJ102T | 1K 1/4W [M] |
| R134 | ERDS2TJ102T | 1K 1/4W [M] | R421 | ERDS2TJ104T | 100K 1/4W [M] | R514 | ERDS2TJ474T | 470K 1/4W [M] | R615 | ERDS2TJ184T | 180K 1/4W [M] |
| R135 | ERDS2TJ102T | 1K 1/4W [M] | R422 | ERDS2TJ104T | 100K 1/4W [M] | R515 | ERDS2TJ474T | 470K 1/4W [M] | R616 | ERDS2TJ154T | 150K 1/4W [M] |
| R136 | ERDS2TJ102T | 1K 1/4W [M] | R423 | ERDS2TJ102T | 1K 1/4W [M] | R516 | ERDS2TJ474T | 470K 1/4W [M] | R619 | ERDS2TJ684T | 680K 1/4W [M] |
| R137 | ERDS2TJ102T | 1K 1/4W [M] | R424 | ERDS2TJ102T | 1K 1/4W [M] | R517 | ERDS2TJ821T | 820 1/4W [M] | R620 | ERDS2TJ473T | 47K 1/4W [M] |
| R139 | ERDS2TJ272T | 2.7K 1/4W [M] | R425 | ERDS2TJ103T | 10K 1/4W [M] | R518 | ERDS2TJ821T | 820 1/4W [M] | R621 | ERD25FVJ180T | 18 1/4W [M] |
| R140 | ERDS2TJ272T | 2.7K 1/4W [M] | R426 | ERDS2TJ103T | 10K 1/4W [M] | R519 | ERDS2TJ392T | 3.9K 1/4W [M] | R622 | ERD25FVJ180T | 18 1/4W [M] |
| R141 | ERDS2TJ102T | 1K 1/4W [M] | R427 | ERDS2TJ103T | 10K 1/4W [M] | R520 | ERDS2TJ392T | 3.9K 1/4W [M] | R623 | ERDS2TJ684T | 680K 1/4W [M] |
| R142 | ERDS2TJ102T | 1K 1/4W [M] | R440 | ERDS1FVJ820T \triangle | 82 1/2W [M] | R521 | ERDS2TJ223T | 22K 1/4W [M] | R624 | ERDS2TJ154T | 150K 1/4W [M] |
| R143 | ERDS2TJ222T | 2.2K 1/4W [M] | R441 | ERDS2TJ473T | 47K 1/4W [M] | R522 | ERDS2TJ223T | 22K 1/4W [M] | R625 | ERD2FCVJ470T | 47 1/4W [M] |

| Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks |
|---------|--|------------------|---------|--------------|------------------|---------|--------------|------------------|---------|-------------------|------------------|
| R626 | ERDS2TJ473T | 47K 1/4W [M] | R721 | ERDS2TJ182T | 1.8K 1/4W [M] | C132 | ECBT1H102KB5 | 1000P 50V [M] | R951 | ERDS2TJ122T | 1.2K 1/4W [M] |
| R627 | ERG1SJ101E  | 100 1W [M] | R723 | ERD2FCVJ4R7T | 4.7 1/4W [M] | C133 | ECBT1H150JC5 | 15P 50V [M] | R952 | ERDS2TJ152T | 1.5K 1/4W [M] |
| R628 | ERG1SJ101E  | 100 1W [M] | R724 | ERDS2TJ122T | 1.2K 1/4W [M] | C134 | ECBT1H180JC5 | 18P 50V [M] | R953 | ERDS2TJ182T | 1.8K 1/4W [M] |
| R629 | ERG1SJ101E  | 100 1W [M] | R727 | ERD25FVJ180T | 18 1/4W [M] | C135 | ECBT1C103MS5 | 0.01 16V [M] | R954 | ERDS2TJ222T | 2.2K 1/4W [M] |
| R630 | ERG1SJ101E  | 100 1W [M] | R728 | ERD2FCVJ4R7T | 4.7 1/4W [M] | C136 | ECBT1C103MS5 | 0.01 16V [M] | R955 | ERDS2TJ332T | 3.3K 1/4W [M] |
| R631 | ERDS2TJ223T | 22K 1/4W [M] | R729 | ERDS2TJ152T | 1.5K 1/4W [M] | C137 | ECBT1H561KB5 | 560P 50V [M] | R956 | ERDS2TJ472T | 4.7K 1/4W [M] |
| R633 | ERDS2TJ103T | 10K 1/4W [M] | R754 | ERDS2TJ102T | 1K 1/4W [M] | C138 | ECBT1H561KB5 | 560P 50V [M] | R957 | ERDS2TJ682T | 6.8K 1/4W [M] |
| R635 | ERDS2TJ102T | 1K 1/4W [M] | R756 | ERDS2TJ222T | 2.2K 1/4W [M] | C139 | ECQB1H682JM3 | 6800P 50V [M] | R960 | ERDS2TJ102T | 1K 1/4W [M] |
| R637 | ERDS2TJ472T | 4.7K 1/4W [M] | R772 | ERDS2TJ104T | 100K 1/4W [M] | C140 | ECQB1H682JM3 | 6800P 50V [M] | R961 | ERDS2TJ122T | 1.2K 1/4W [M] |
| R639 | ERDS2TJ474T | 470K 1/4W [M] | R773 | ERDS2TJ103T | 10K 1/4W [M] | C141 | ECEA1HKA010B | 1 50V [M] | R962 | ERDS2TJ152T | 1.5K 1/4W [M] |
| R640 | ERDS2TJ474T | 470K 1/4W [M] | R774 | ERDS2TJ223T | 22K 1/4W [M] | C142 | ECEA1HKA010B | 1 50V [M] | R963 | ERDS2TJ182T | 1.8K 1/4W [M] |
| R641 | ERDS2TJ221T | 220 1/4W [M] | R775 | ERDS2TJ332T | 3.3K 1/4W [M] | C143 | ECEA1HKA010B | 1 50V [M] | R964 | ERDS2TJ222T | 2.2K 1/4W [M] |
| R642 | ERDS2TJ221T | 220 1/4W [M] | R777 | ERDS2TJ220T | 22 1/4W [M] | C144 | ECEA1HKA010B | 1 50V [M] | R970 | ERDS2TJ102T | 1K 1/4W [M] |
| R643 | ERDS2TJ124T | 120K 1/4W [M] | R778 | ERDS2TJ222T | 2.2K 1/4W [M] | C145 | ECBT1H220JC5 | 22P 50V [M] | R971 | ERDS2TJ122T | 1.2K 1/4W [M] |
| R644 | ERDS2TJ124T | 120K 1/4W [M] | R779 | ERDS2TJ103T | 10K 1/4W [M] | C146 | ECBT1H331KB5 | 330P 50V [M] | R972 | ERDS2TJ152T | 1.5K 1/4W [M] |
| R645 | ERDS2TJ473T | 47K 1/4W [M] | R780 | ERDS2TJ473T | 47K 1/4W [M] | C147 | ECBT1H102KB5 | 1000P 50V [M] | R973 | ERDS2TJ182T | 1.8K 1/4W [M] |
| R646 | ERDS2TJ274T | 270K 1/4W [M] | R781 | ERDS2TJ473T | 47K 1/4W [M] | C148 | ECBT1C103NS5 | 0.01 16V [M] | R974 | ERDS2TJ222T | 2.2K 1/4W [M] |
| R671 | ERDS2TJ223T | 22K 1/4W [M] | R782 | ERDS2TJ153T | 15K 1/4W [M] | C149 | ECBT1C103NS5 | 0.01 16V [M] | | | |
| R672 | ERDS2TJ223T | 22K 1/4W [M] | R783 | ERDS2TJ103T | 10K 1/4W [M] | C150 | ECBT1H104ZF5 | 0.1 50V [M] | | CAPACITORS | |
| R675 | ERDS2TJ682T | 6.8K 1/4W [M] | R784 | ERDS2TJ335T | 3.3M 1/4W [M] | C172 | ECBT1H331KB5 | 330P 50V [M] | | | |
| R681 | ERDS2TJ270T | 27 1/4W [M] | R901 | ERDS2TJ102T | 1K 1/4W [M] | C173 | ECEA1CKA220B | 22 16V [M] | C101 | ECBT1C103NS5 | 0.01 16V [M] |
| R682 | ERDS2TJ270T | 27 1/4W [M] | R903 | ERDS2TJ104T | 100K 1/4W [M] | C174 | ECEA1CKA101B | 100 16V [M] | C103 | ECBT1C103NS5 | 0.01 16V [M] |
| R683 | ERDS2TJ270T | 27 1/4W [M] | R906 | ERDS2TJ393T | 39K 1/4W [M] | C175 | ECBT1C103NS5 | 0.01 16V [M] | C104 | ECBT1H102KB5 | 1000P 50V [M] |
| R684 | ERDS2TJ270T | 27 1/4W [M] | R907 | ERDS2TJ104T | 100K 1/4W [M] | C176 | ECBT1C103NS5 | 0.01 16V [M] | C105 | ECBT1H470J5 | 47P 50V [M] |
| R685 | ERDS2TJ270T | 27 1/4W [M] | R908 | ERDS2TJ104T | 100K 1/4W [M] | C181 | ECBT1H471KB5 | 470P 50V [M] | C106 | ECBT1C103NS5 | 0.01 16V [M] |
| R686 | ERDS2TJ270T | 27 1/4W [M] | R909 | ERDS2TJ104T | 100K 1/4W [M] | C196 | ECBT1H102KB5 | 1000P 50V [M] | C107 | ECBT1H473ZF5 | 0.047 50V [M] |
| R687 | ERDS2TJ270T | 27 1/4W [M] | R910 | ERDS2TJ102T | 1K 1/4W [M] | C401 | ECEA1VKA4R7B | 4.7 35V [M] | C108 | ECBT1H8R2KC5 | 8.2P 50V [M] |
| R688 | ERDS2TJ270T | 27 1/4W [M] | R911 | ERDS2TJ104T | 100K 1/4W [M] | C402 | ECBT1E103ZF5 | 0.01 25V [M] | C109 | ECBT1C103NS5 | 0.01 16V [M] |
| R689 | ERDS2TJ270T | 27 1/4W [M] | R917 | ERDS2TJ103T | 10K 1/4W [M] | C403 | ECBT1E103ZF5 | 0.01 25V [M] | C110 | ECBT1C103NS5 | 0.01 16V [M] |
| R690 | ERDS2TJ223T | 22K 1/4W [M] | R918 | ERDS2TJ102T | 1K 1/4W [M] | C404 | ECEA1VKA4R7B | 4.7 35V [M] | C111 | ECEA1EKA4R7B | 4.7 25V [M] |
| R690 | ERDS2TJ270T | 27 1/4W [M] | R919 | ERDS2TJ102T | 1K 1/4W [M] | C405 | ECBT1H101KB5 | 100P 50V [M] | C112 | ECBT1C103NS5 | 0.01 16V [M] |
| R691 | ERDS2TJ270T | 27 1/4W [M] | R920 | ERDS2TJ271T | 270 1/4W [M] | C406 | ECBT1H102KB5 | 1000P 50V [M] | C113 | ECBT1H102KB5 | 1000P 50V [M] |
| R692 | ERDS2TJ270T | 27 1/4W [M] | R921 | ERDS2TJ121T | 120 1/4W [M] | C409 | ECA1CM220B | 20 16V [M] | C114 | ECEA1HKA3R3B | 3.3 50V [M] |
| R693 | ERDS2TJ270T | 27 1/4W [M] | R922 | ERDS2TJ472T | 4.7K 1/4W [M] | C410 | ECA1CM220B | 20 16V [M] | C115 | ECEA1EKA4R7B | 4.7 25V [M] |
| R694 | ERDS2TJ270T | 27 1/4W [M] | R924 | ERDS2TJ103T | 10K 1/4W [M] | C411 | ECBT1H101KB5 | 100P 50V [M] | C116 | ECBT1C822MS5 | 8200P 16V [M] |
| R695 | ERDS2TJ102T | 1K 1/4W [M] | R925 | ERDS2TJ103T | 10K 1/4W [M] | C412 | ECBT1H101KB5 | 100P 50V [M] | C117 | ECQB1H471JM3 | 470P 50V [M] |
| R696 | ERDS2TJ102T | 1K 1/4W [M] | R927 | ERDS2TJ181T | 180 1/4W [M] | C413 | ECA1CM100B | 10 16V [M] | C118 | ECQB1H103JM3 | 0.01 50V [M] |
| R699 | ERDS2TJ332T | 3.3K 1/4W [M] | R929 | ERDS2TJ101T | 100 1/4W [M] | C414 | ECA1CM100B | 10 16V [M] | C119 | ECQB1H103JM3 | 0.01 50V [M] |
| R705 | ERD2FCVJ4R7T | 4.7 1/4W [M] | R930 | ERDS2TJ101T | 100 1/4W [M] | C415 | ECBT1E103ZF5 | 0.01 25V [M] | C120 | ECEA1HKA010B | 1 50V [M] |
| R707 | ERDS2TJ332T | 3.3K 1/4W [M] | R941 | ERDS2TJ472T | 4.7K 1/4W [M] | C416 | ECBT1E103ZF5 | 0.01 25V [M] | C121 | ECEA1HKA010B | 1 50V [M] |
| R708 | ERDS2TJ102T | 1K 1/4W [M] | R943 | ERDS2TJ102T | 1K 1/4W [M] | C417 | ECBT1H101KB5 | 100P 50V [M] | C122 | ECEA1HKA2R2B | 2.2 50V [M] |
| R711 | ERD25FVJ221T | 220 1/4W [M] | R944 | ERDS2TJ104T | 100K 1/4W [M] | C418 | ECBT1H101KB5 | 100P 50V [M] | C123 | ECEA1HKA010B | 1 50V [M] |
| R714 | ERDS2TJ472T | 4.7K 1/4W [M] | R945 | ERDS2TJ104T | 100K 1/4W [M] | C419 | ECBT1H331KB5 | 330P 50V [M] | C124 | ECBT1H102KB5 | 1000P 50V [M] |
| R715 | ERDS2TJ1R5T | 1.5 1/4W [M] | R946 | ERDS2TJ103T | 10K 1/4W [M] | C420 | ECBT1H331KB5 | 330P 50V [M] | C125 | ECBT1H150JC5 | 15P 50V [M] |
| R716 | ERDS2TJ1R5T | 1.5 1/4W [M] | R947 | ERDS2TJ103T | 10K 1/4W [M] | C421 | ECBT1H331KB5 | 330P 50V [M] | C126 | ECBT1H104ZF5 | 0.1 50V [M] |
| R717 | ERDS2TJ752T | 7.5K 1/4W [M] | R948 | ERDS2TJ103T | 10K 1/4W [M] | C422 | ECBT1H331KB5 | 330P 50V [M] | C127 | ECEA1CKA220B | 22 16V [M] |
| R718 | ERDS2TJ682T | 6.8K 1/4W [M] | R949 | ERDS2TJ103T | 10K 1/4W [M] | C425 | ECBT1H101KB5 | 100P 50V [M] | C128 | ECBT1C103NS5 | 0.01 16V [M] |
| R719 | ERD2FCVJ6R8T | 6.8 1/4W [M] | R950 | ERDS2TJ102T | 1K 1/4W [M] | C426 | ECBT1H101KB5 | 100P 50V [M] | C129 | ECEA0JKA101B | 100 6.3V [M] |

| Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks | Ref No. | Part No. | Values & Remarks |
|---------|--------------|------------------|---------|--|------------------|---------|---|------------------|---------|----------|------------------|
| C130 | ECEAJKA101B | 100 6.3V [M] | C530 | ECQB1H273JM3 | 0.027 50V [M] | C712 | ECA1HM470B | 47 50V [M] | | | |
| C131 | ECBT1C103NS5 | 0.01 16V [M] | C531 | ECBT1E103ZF5 | 0.01 25V [M] | C713 | ECKR1H103ZF5 | 0.01 50V [M] | | | |
| C427 | ECBT1H221KB5 | 220P 50V [M] | C532 | ECBT1E103ZF5 | 0.01 25V [M] | C716 | ECEA2AU100B | 10 100V [M] | | | |
| C428 | ECBT1H221KB5 | 220P 50V [M] | C533 | ECEA1CKA100B | 10 16V [M] | C720 | ECA1EM220B | 22 25V [M] | | | |
| C431 | ECA1CM100B | 10 16V [M] | C534 | ECEA1CKA100B | 10 16V [M] | C722 | ECQE2104KF3 | 0.1 250V [M] | | | |
| C432 | ECA1CM100B | 10 16V [M] | C536 | ECBT1E103ZF5 | 0.01 25V [M] | C751 | ECKWRS102MBC  | 1000P 400V [M] | | | |
| C440 | ECBT1E103ZF5 | 0.01 25V [M] | C601 | ECEA1HN2R2SB | 2.2 50V [M] | C752 | ECKR1H103ZF5 | 0.01 50V [M] | | | |
| C451 | ECEA1VKA4R7B | 4.7 35V [M] | C602 | ECEA1HN2R2SB | 2.2 50V [M] | C753 | ECA1EM102E  | 1000 25V [M] | | | |
| C452 | ECEA1VKA4R7B | 4.7 35V [M] | C603 | ECBT1H681KB5 | 680P 50V [M] | C756 | ECBT1E103ZF5 | 0.01 25V [M] | | | |
| C453 | CBT1H100JC5 | 10P 50V [M] | C604 | ECBT1H681KB5 | 680P 50V [M] | C757 | ECA1CM470B | 70 16V [M] | | | |
| C454 | ECBT1H100JC5 | 10P 50V [M] | C605 | ECA1JM330B | 33 6.3V [M] | C758 | ECA1AM101B | 100 10V [M] | | | |
| C455 | ECBT1H102KB5 | 1000P 50V [M] | C606 | ECA1JM330B | 33 6.3V [M] | C759 | ECA1EM220B | 22 25V [M] | | | |
| C456 | ECBT1H102KB5 | 1000P 50V [M] | C607 | ECCR1H100K5 | 10P 50V [M] | C771 | ECA1HM2R2B | 2.2 50V [M] | | | |
| C457 | ECEA1AU330B | 33 10V [M] | C608 | ECCR1H100K5 | 10P 50V [M] | C772 | ECA1CM100B | 10 16V [M] | | | |
| C458 | ECEA1AU330B | 33 10V [M] | C609 | ECBT1H221KB5 | 220P 50V [M] | C773 | ECBT1E223ZF5 | 0.022 25V [M] | | | |
| C459 | ECFR1E223KR | 0.022 25V [M] | C610 | ECBT1H221KB5 | 220P 50V [M] | C774 | ECEAJU221B | 220 6.3V [M] | | | |
| C460 | ECFR1E223KR | 0.022 25V [M] | C611 | ECQV1H473JZ3 | 0.047 50V [M] | C901 | ECAJ0M102B | 02 6.3V [M] | | | |
| C461 | ECFR1E682KR | 6800P 25V [M] | C612 | ECQV1H473JZ3 | 0.047 50V [M] | C902 | ECBT1H104ZF5 | 0.1 50V [M] | | | |
| C462 | ECFR1E682KR | 6800P 25V [M] | C613 | ECBT1H681KB5 | 680P 50V [M] | C903 | ECBT1E103ZF5 | 0.01 25V [M] | | | |
| C463 | ECEA1VKA4R7B | 4.7 35V [M] | C614 | ECBT1H681KB5 | 680P 50V [M] | C904 | ECAJ0M102B | 02 6.3V [M] | | | |
| C464 | ECEA1VKA4R7B | 4.7 35V [M] | C615 | ECEA2AN2R2SB | 2.2 100V [M] | C905 | ECBT1E103ZF5 | 0.01 25V [M] | | | |
| C465 | ECBT1E103ZF5 | 0.01 25V [M] | C616 | ECEA2AU100B | 10 100V [M] | C906 | ECEAJKA101B | 100 6.3V [M] | | | |
| C466 | ECBT1E103ZF5 | 0.01 25V [M] | C617 | ECA1HM470B | 47 50V [M] | C908 | ECBT1E103ZF5 | 0.01 25V [M] | | | |
| C469 | ECBT1H181KB5 | 180P 50V [M] | C618 | ECEA2AU100B | 10 100V [M] | C909 | ECEA1VKA220B | 22 35V [M] | | | |
| C470 | ECBT1H181KB5 | 180P 50V [M] | C621 | ECEA2AU100B | 10 100V [M] | C910 | ECEA1VKA220B | 22 35V [M] | | | |
| C503 | ECEAJKA101B | 100 6.3V [M] | C623 | ECKR1H223ZF5 | 0.022 50V [M] | C911 | ECEA1VKA220B | 22 35V [M] | | | |
| C504 | ECEAJKA101B | 100 6.3V [M] | C624 | ECKR1H223ZF5 | 0.022 50V [M] | C912 | ECEA1VKA220B | 22 35V [M] | | | |
| C505 | ECFR1C104MR | 0.1 16V [M] | C625 | ECEA1HN100SB | 10 50V [M] | C913 | ECEA1VKA100B | 10 35V [M] | | | |
| C506 | ECFR1C104MR | 0.1 16V [M] | C626 | ECEA1HN100SB | 10 50V [M] | C914 | ECEA1VKA100B | 10 35V [M] | | | |
| C511 | ECEA1HKA3R3B | 3.3 50V [M] | C627 | ECKR2H101KB5 | 100P 500V [M] | C916 | ECEA1HKA010B | 1 50V [M] | | | |
| C512 | ECEA1HKA3R3B | 3.3 50V [M] | C628 | ECBT1H101KB5 | 100P 50V [M] | C917 | ECAJ0M101B | 01 6.3V [M] | | | |
| C513 | ECBT1H150J5 | 15P 50V [M] | C629 | ECBT1E223ZF5 | 0.022 25V [M] | C918 | ECEAJKA101B | 100 6.3V [M] | | | |
| C514 | ECBT1H150J5 | 15P 50V [M] | C631 | ECKR1H102KB5 | 1000P 50V [M] | C920 | ECEA1HKA010B | 1 50V [M] | | | |
| C515 | ECBT1H221KB5 | 220P 50V [M] | C632 | ECKR1H102KB5 | 1000P 50V [M] | C934 | ECBT1H101KB5 | 100P 50V [M] | | | |
| C516 | ECBT1H221KB5 | 220P 50V [M] | C683 | ECBT1C332KR5 | 3300P 16V [M] | C937 | ECBT1H101KB5 | 100P 50V [M] | | | |
| C517 | ECBT1H330J5 | 33P 50V [M] | C684 | ECBT1C332KR5 | 3300P 16V [M] | C943 | ECBT1H331KB5 | 330P 50V [M] | | | |
| C518 | ECBT1H330J5 | 33P 50V [M] | C685 | ECBT1E103ZF5 | 0.01 25V [M] | C944 | ECEA1CKA100B | 10 16V [M] | | | |
| C519 | ECEA1VKA4R7B | 4.7 35V [M] | C701 | ECBT1E103ZF5 | 0.01 25V [M] | C945 | ECBT1E103ZF5 | 0.01 25V [M] | | | |
| C520 | ECEA1VKA4R7B | 4.7 35V [M] | C702 | ECQE2104KF3 | 0.1 250V [M] | C946 | ECBT1H470J5 | 47P 50V [M] | | | |
| C521 | ECEA1VKA4R7B | 4.7 35V [M] | C703 | EC0S1JP472BB | 4700P 63V [M] | C947 | ECBT1H470J5 | 47P 50V [M] | | | |
| C522 | ECEA1VKA4R7B | 4.7 35V [M] | C704 | EC0S1JP472BB | 4700P 3V [M] | C948 | ECBT1E103ZF5 | 0.01 25V [M] | | | |
| C523 | ECFR1E123KR | 0.012 25V [M] | C705 | ECA1HM332E  | 3300 50V [M] | C962 | ECBT1H561KB5 | 560P 50V [M] | | | |
| C524 | ECFR1E123KR | 0.012 25V [M] | C706 | ECA1HM332E  | 3300 50V [M] | C963 | ECBT1H102KB5 | 1000P 50V [M] | | | |
| C525 | ECQV1H683JM3 | 0.068 50V [M] | C707 | ECA1VM101B | 100 35V [M] | | | | | | |
| C526 | ECQV1H683JM3 | 0.068 50V [M] | C708 | ECKR1H103ZF5 | 0.01 50V [M] | | | | | | |
| C527 | ECBT1C562KR5 | 5600P 16V [M] | C709 | ECA1CM330B | 30 16V [M] | | | | | | |
| C528 | ECBT1C562KR5 | 5600P 16V [M] | C710 | ECBT1E103ZF5 | 0.01 25V [M] | | | | | | |
| C529 | ECQB1H273JM3 | 0.027 50V [M] | C711 | ECKR1H103ZF5 | 0.01 50V [M] | | | | | | |

Packing Materials & Accessories

Notes : * Important safety notice :
 Components identified by \triangle mark have special characteristics important for safety.
 Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
 When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

* The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
 * Parts without these indication can be used for all areas.
 * [M] in Remarks column indicates parts supplied by MESA.
 * The "(SF)" mark denotes the standard part.
 * Remote Control Unit : Supply period for three years from terminal of production.
 * Reference for O/I book languages are as follows :

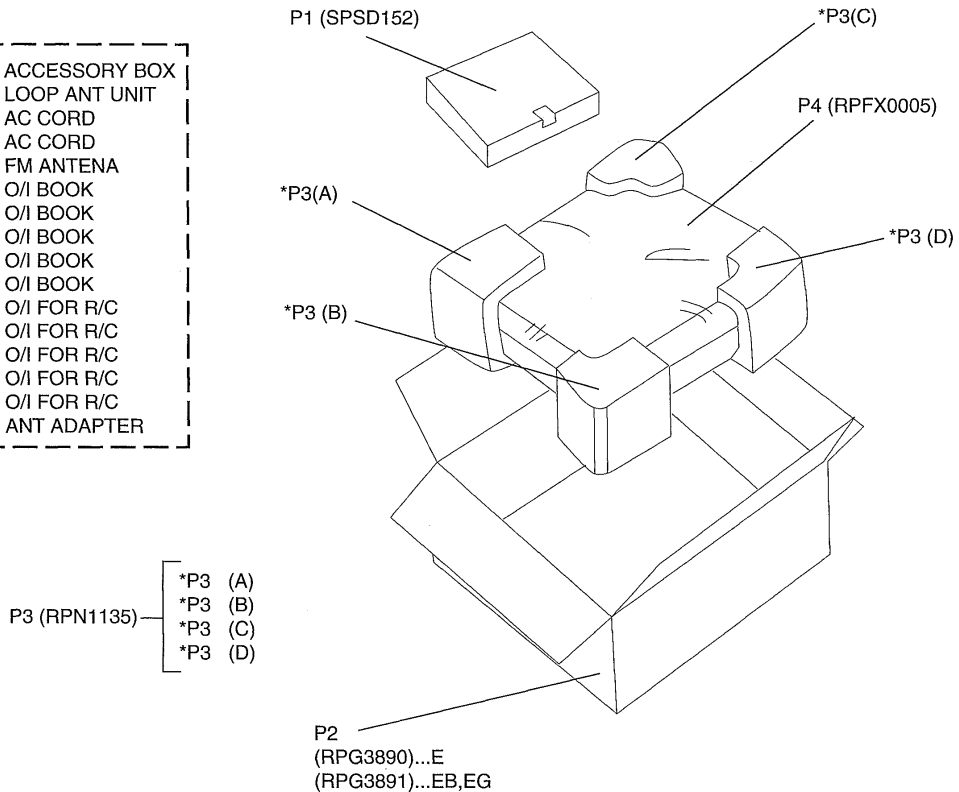
| | | | | |
|-------------|----------------------|--------------|--------------|--------------|
| Ar : Arabic | Cf : Canadian French | Ch : Chinese | Cz : Czech | Da : Danish |
| Du : Dutch | En : English | Fr : French | Ge : German | It : Italian |
| Ko : Korean | Po : Polish | Ru : Russian | Sp : Spanish | Sw : Swedish |

| Ref No. | Part No. | Part Name & Description | Remarks | Ref No. | Part No. | Part Name & Description | Remarks | Ref No. | Part No. | Part Name & Description | Remarks |
|---------|----------|--------------------------|----------|---------|------------|---------------------------|---------|---------|-----------|-------------------------|---------|
| | | PACKING MATERIALS | | | | ACCESSORIES | | A5 | RQT4382-D | O/I BOOK (Ge,It,Fr) | [M]EG |
| P1 | SPSD152 | ACCESSORY BOX | [M] | A1 | EUR644858 | REMOTE CONTROL | [M] | A5 | RQT4383-R | O/I BOOK (Po,Cz,Ru) | [M]E |
| P2 | RPG3890 | PACKING CASE | [M]E | A1-1 | UR64EC1987 | R/C BATTERY COVER | [M] | A5 | RQT4384-H | O/I BOOK (Da,Du) | [M]EG |
| P2 | RPG3891 | PACKING CASE | [M]EB EG | A2 | RSA0010 | LOOP ANT UNIT \triangle | [M] | A5 | RQT4387-B | O/I BOOK R/C (En) | [M]EB |
| P3 | RPN0865 | POLYFOAM | [M] | A3 | RJA0019-2K | AC CORD (SF) \triangle | [M]EG E | A5 | RQT4388-E | O/I BOOK R/C (En,Sp,Sw) | [M]E |
| P4 | RPF0005 | MIRAMAT BAG | [M] | A3 | RJA0053-1X | AC CORD (SF) | [M]EB | A5 | RQT4389-D | O/I BOOK R/C (Ge,It,Fr) | [M]EG |
| P5 | SPB1061 | BAG | [M] | A4 | RSA0007 | FM ANTENA | [M] | A5 | RQT4390-R | O/I BOOK R/C (Po,Cz,Ru) | [M]E |
| | | | | A5 | RQT4380-B | O/I BOOK (En) | [M]EB | A5 | RQT4391-H | O/I BOOK R/C (Da,Du) | [M]EG |
| | | | | A5 | RQT4381-E | O/I BOOK (En,Sp,Sw) | [M]E | A6 | SJP9009 | ANT ADAPTER | [M]EB |

Packaging

ACCESSORY

| | | |
|----|---------------------|-----------------|
| P1 | (SPSD152) | : ACCESSORY BOX |
| A2 | (RSA0010) | : LOOP ANT UNIT |
| A3 | (RJA0019-2K)...E,EG | : AC CORD |
| A3 | (RJA0053-1X)...EB | : AC CORD |
| A4 | (RSA0007) | : FM ANTENA |
| A5 | (RQT4380-B)...EB | : O/I BOOK |
| A5 | (RQT4381-E)...E | : O/I BOOK |
| A5 | (RQT4382-D)...EG | : O/I BOOK |
| A5 | (RQT4383-R)...E | : O/I BOOK |
| A5 | (RQT4384-H)...EG | : O/I BOOK |
| A5 | (RQT4387-B)...EB | : O/I FOR R/C |
| A5 | (RQT4388-E)...E | : O/I FOR R/C |
| A5 | (RQT4389-D)...EG | : O/I FOR R/C |
| A5 | (RQT4390-R)...E | : O/I FOR R/C |
| A5 | (RQT4391-H)...EG | : O/I FOR R/C |
| A6 | (SJP9009)...EB | : ANT ADAPTER |



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