

# Service Manual

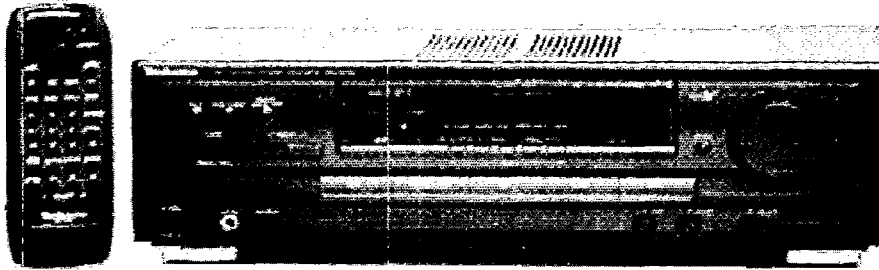
AV Control Stereo Receiver

Receiver

## SA-EX100

Colour

(K) ..... Black Type



Area

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

## Specifications

### Amplifier Section

|   |                       |
|---|-----------------------|
| Power output (at 240V)                                    |                       |
| DIN 1kHz (T.H.D. 1%)                                      | 2 x 100W (4Ω)         |
| 40Hz – 20kHz continuous power output both channels driven | 2 x 80W (8Ω)          |
| Total harmonic distortion                                 |                       |
| Rate power at 40Hz – 20kHz                                | 0.5% (8Ω)             |
| Half power at 1kHz  | 0.03% (8Ω)            |
| Load impedance  | 4 – 16Ω               |
| Intermodulation distortion                                |                       |
| rated power at 60Hz:7kHz 4:1, SMPTE                       | 0.5% (8Ω)             |
| Power bandwidth   |                       |
| both channels driven, –3dB                                | 10Hz – 40kHz (8Ω)     |
| Damping factor  | 40 (8Ω)               |
| Frequency response  |                       |
| PHONO   | RIAA standard curve   |
|   | (30Hz – 15kHz) ±0.8dB |
|   | 10Hz – 40kHz, ±3dB    |
| CD, VCR, TAPE   |                       |
| Input sensitivity and impedance                           |                       |
| PHONO   | 3mV / 47kΩ            |
| CD, VCR, TAPE   | 200mV / 22kΩ          |
| S/N at rated power (8Ω)                                   |                       |
| PHONO   | 70dB (IHF, A: 80dB)   |
| CD, VCR, TAPE   | 75dB (IHF, A: 88dB)   |
| Tone control  |                       |
| BASS  | 50Hz, +10 to –10dB    |
| TREBLE  | 20kHz, +10 to –10dB   |
| Output voltage  |                       |
| VCR1 OUT, TAPE REC (OUT)                                  | 200mV                 |
| Channel balance (250Hz – 6.3kHz)                          | ±1dB                  |
| Channel separation  | 55dB                  |
| Headphones output level and impedance                     | 430mV / 330Ω          |

### FM Tuner Section

|                                      |                            |
|--------------------------------------|----------------------------|
| Frequency range                      | 87.50 – 108.00MHz          |
| Sensitivity                          |                            |
| S/N 30dB                             | 1.5μV / 75Ω                |
| S/N 26dB                             | 1.3μV / 75Ω                |
| S/N 20dB                             | 1.2μV / 75Ω                |
| Usable sensitivity                   | 1.5μV / 75Ω (IHF '58)      |
| 46dB stereo quieting sensitivity     | 22μV / 75Ω                 |
| Total harmonic distortion            |                            |
| MONO                                 | 0.2%                       |
| STEREO                               | 0.3%                       |
| S/N                                  |                            |
| MONO                                 | 60dB (75dB, IHF)           |
| STEREO                               | 58dB (71dB, IHF)           |
| Frequency response                   | 20Hz – 15 kHz (+1dB, –2dB) |
| Alternate channel selectivity        | 65dB (±400kHz)             |
| Capture ratio                        | 1dB                        |
| Image rejection at 98MHz             | 40dB                       |
| IF rejection at 98MHz                | 70dB                       |
| Spurious response rejection at 98MHz | 70dB                       |
| AM suppression                       | 50dB                       |
| Stereo separation (1 kHz)            | 40dB                       |
| Carrier leak                         |                            |
| 19kHz                                | –30dB (–35dB, IHF)         |
| 38kHz                                | –50dB (–55dB, IHF)         |
| Channel balance (250Hz – 6.3kHz)     | ±1.5dB                     |
| Limiting point                       | 1.2μV                      |
| Bandwidth                            |                            |
| IF amplifier                         | 180kHz                     |
| FM demodulator                       | 1000kHz                    |
| Antenna terminal(s)                  | 75Ω (unbalanced)           |

### 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.

# Technics®

© 1996 Matsushita Electronics (S) Pte. Ltd.  
All rights reserved. Unauthorized copying and distribution is a violation of law.

**AM Tuner Section**

|                           |   |
|---------------------------|---|
| <b>Frequency range</b>    |   |
| AM (...EG) / MW (...E,EB) | 522 — 1611kHz (9kHz steps)<br>530 — 1620kHz (10kHz steps) |
| LW ... (E,EB)             | 144 — 288kHz  |
| <b>Sensitivity</b>        |   |
| AM (...EG) / MW (...E,EB) | 20µV, 330µV/m   |
| LW ... (E,EB)             | 45µV  |
| <b>Selectivity</b>        |   |
| AM (...EG) / MW (...E,EB) | (at 999kHz) 55dB  |
| LW ... (E,EB)             | (at 252kHz) 55dB  |
| <b>Image rejection</b>    |   |
| AM (...EG) / MW (...E,EB) | (at 999kHz) 40dB  |
| LW ... (E,EB)             | (at 252kHz) 40dB  |
| <b>IF rejection</b>       |   |
| AM (...EG) / MW (...E,EB) | (at 999kHz) 55dB  |
| LW ... (E,EB)             | (at 252kHz) 55dB  |

**General**

|                               |                               |
|-------------------------------|-------------------------------|
| <b>Power consumption</b>      | 190W (standby condition : 3W) |
| <b>Power supply for E,EB</b>  | AC 230 – 240V, 50Hz           |
| <b>for EG</b>                 | AC 230V, 50Hz                 |
| <b>Dimensions (W x H x D)</b> | 430 x 136 x 309mm             |
| <b>Weight</b>                 | 7.0kg                         |

**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     | SCHEMATIC DIAGRAM .....         | 11 ~ 20 |
| PROTECTION CIRCUITRY .....                         | 2     | BLOCK DIAGRAM .....             | 21 ~ 23 |
| ACCESSORIES .....                                  | 2     | WIRING CONNECTION DIAGRAM ..... | 24      |
| OPERATION CHECKS & MAIN COMPONENT REPLACEMENT      | 3 ~ 6 | PRINTED CIRCUIT BOARD .....     | 25 ~ 29 |
| CAUTION FOR AC MAINS LEAD .....                    | 7     | CABINET PARTS LOCATION .....    | 30      |
| TROUBLESHOOTING .....                              | 8 ~ 9 | REPLACEMENT PARTS LIST .....    | 31 ~ 32 |
| TERMINAL FUNCTION OF ICs .....                     | 10    | RESISTORS & CAPACITORS .....    | 33 ~ 35 |
| TERMINAL GUIDE OF ICs TRANSISTORS AND DIODES ..... | 10    | PACKAGING .....                 | 36      |

**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.

**For E, EB :** Current consumption at 230V – 240V, 50Hz in NO SIGNAL mode should be between 120mA to 350mA.

**For EG :** Current consumption at 230V, 50Hz in NO SIGNAL mode should be between 130mA to 380mA.

**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.

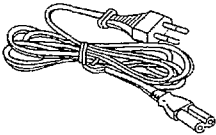
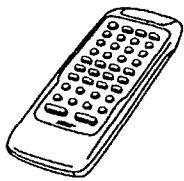
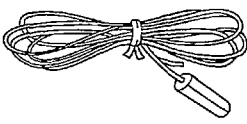
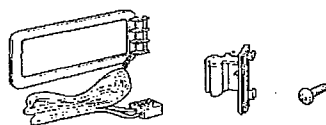
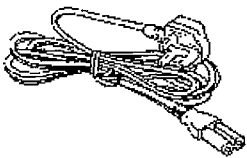

If this occurs, follow the procedure outlines below:

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.

**Accessories**

|   |   |  |   |
|---|---|--|---|
|  <p>AC power supply cord<br/>(RJA0019-2K .. E,EG) ... 1 pc</p> |  <p>Remote control unit<br/>(EUR642175) ..... 1 pc</p> |  <p>FM indoor antenna<br/>(RSA0007) ..... 1 pc</p> |  <p>AM loop antenna set<br/>(RSA0010) .... 1 set</p> |
|  <p>AC power supply cord<br/>(VJA0733 .. EB) ... 1 pc</p>      |  <p>Attachment plug<br/>(SJP9009 .. EB) ... 1 pc</p>   |  |   |

# ■ Operation Checks and Main Component Replacement Procedures

"ATTENTION SERVICER" Some chassis components may have sharpe edges. Be careful when disassembling and serving.

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

|  |               |
|--|---------------|
| • Checking Procedure for Major P.C.B. ....               | page<br>3 ~ 4 |
| • Replacement of Power IC and Regulator Transistor ..... | 5 ~ 6         |
| • Replacement of the Fan Motor .....                     | 6             |

## ■ Checking Procedure for Major P.C.B.

**Step 1**  
a X 4

**Step 2**  
b X 2

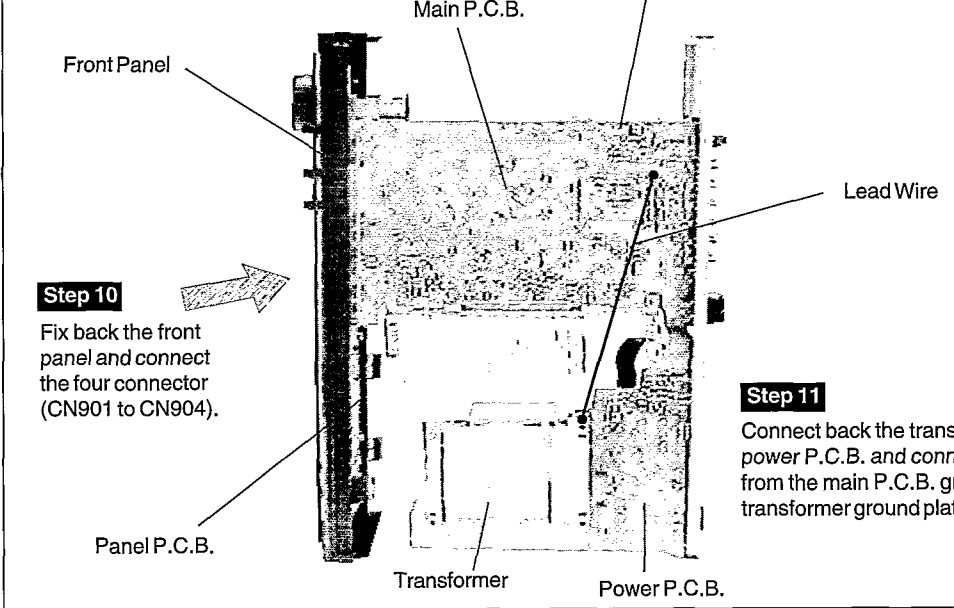
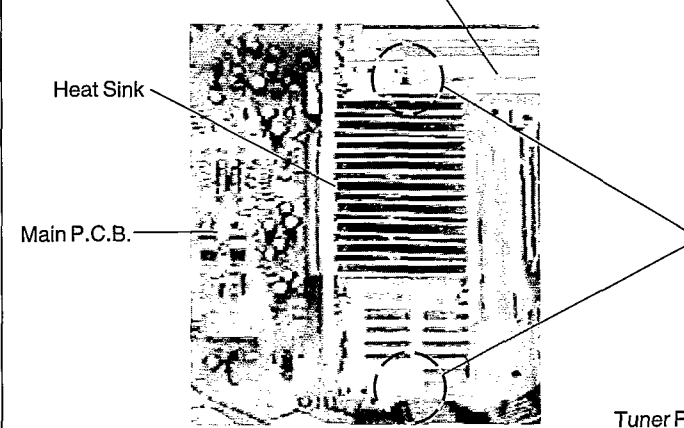
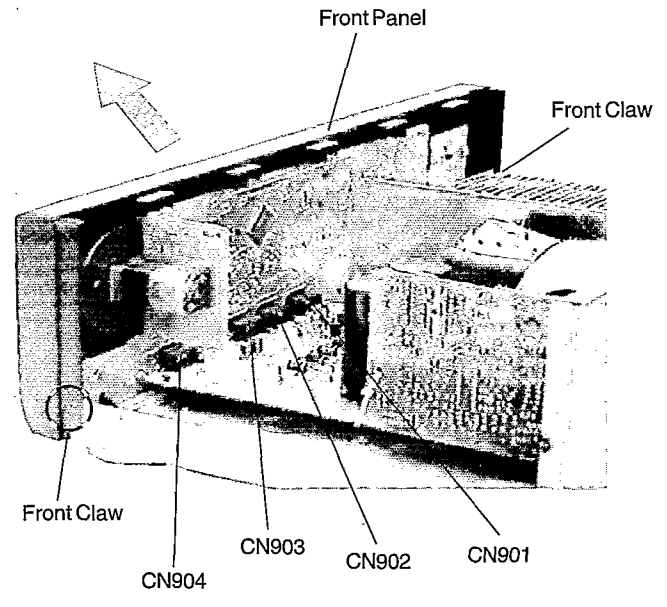
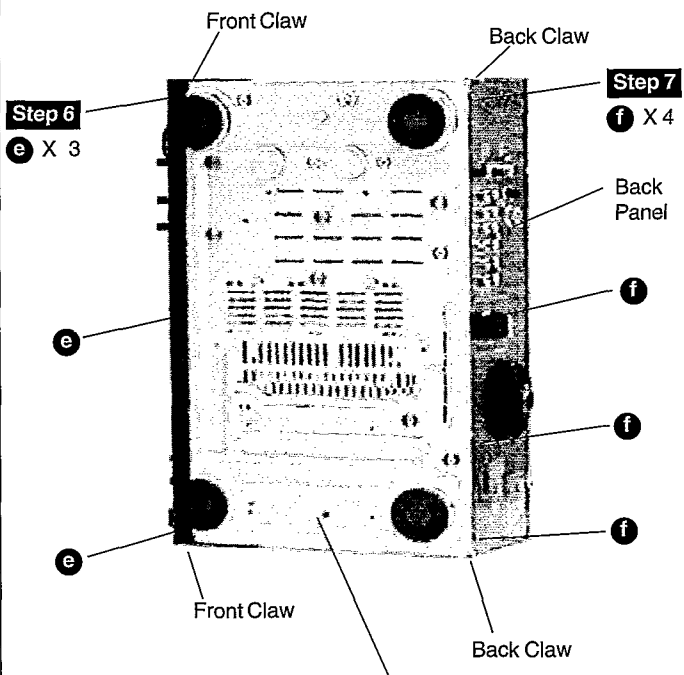
**Step 3** Remove the Top cabinet.

**Step 4**  
c X 8

**Step 5**  
d X 6

a [SNE2129-1] (Black)     
 b [XTBS3+8JFZ1] (Black)

c [XTB3+20JFZ] (Black)     
 d [XTB3+8FFZ] (Black)



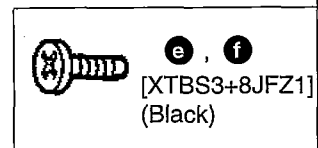
**Step 10**  
Fix back the front panel and connect the four connector (CN901 to CN904).

**Step 8** Release the two front claws and pull out the front panel as shown above. Take note of the connectors as you remove the front panel. (CN901 to CN904)

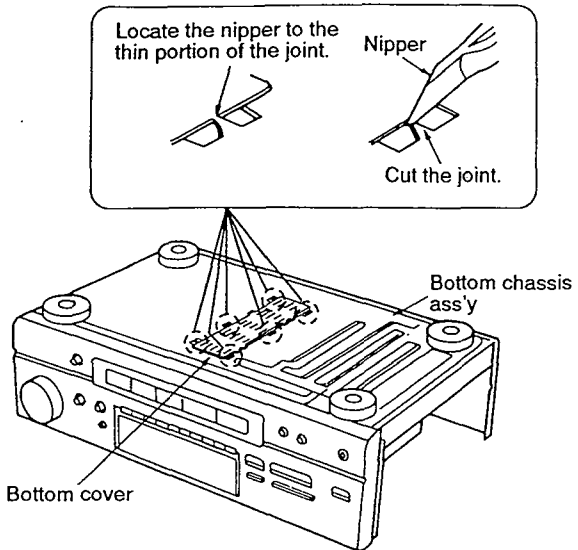
**Step 9** Release the two back claws and the hooks of the heat sink. Slide out the bottom chassis from the main P.C.B. and the back panel.

**Step 12**  
Check the Main P.C.B., Panel P.C.B., Tuner P.C.B. and the Power P.C.B. as shown on the left.

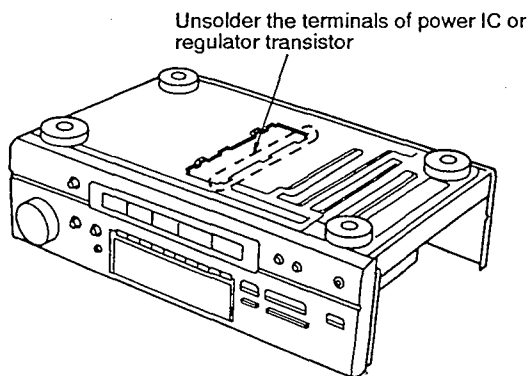
**Step 11**  
Connect back the transformer to the power P.C.B. and connect a lead wire from the main P.C.B. ground to the transformer ground plate.



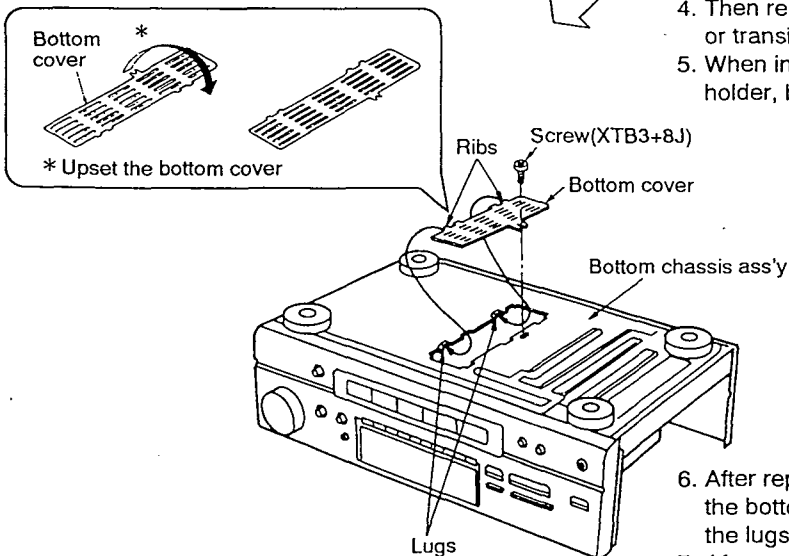
## ■ Replacement of Power IC and Regulator Transistor



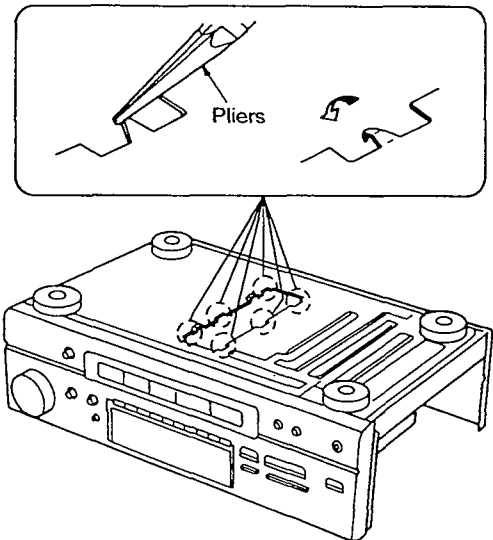
1. Cut the joints(6 portions) between bottom cover and bottom chassis ass'y with nipper.



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



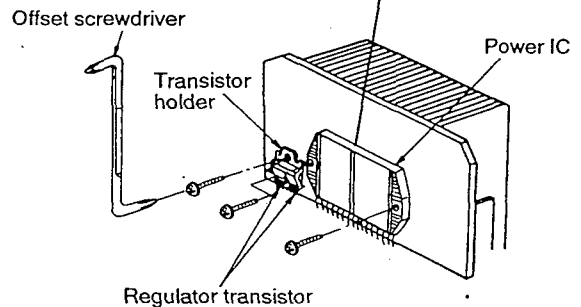
6. After replacing the power IC or regulator transistor, upset the bottom cover and align the ribs of the bottom cover to the lugs on the bottom chassis ass'y.  
7. After mounting the bottom cover on the bottom chassis ass'y, fix it with a screw(XTB3+8J).



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

### — 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.

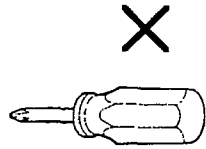


4. Then remove the screws fixed to the power IC or transistor holder.  
5. When installing or removing the power IC or transistor holder, be sure to use an offset screwdriver.

**CAUTION**

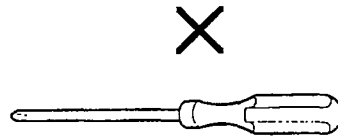
1. After replacing the power IC or regulator transistor, apply a sufficient quantity of compound grease (RFKX0002/SZZ0L15) between the heat sink and the power IC or regulator transistor (Radiation of power IC).
2. Tighten enough the screws. Otherwise, the heat radiation works little.
3. When installing 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 short straight screwdriver

Fig.2



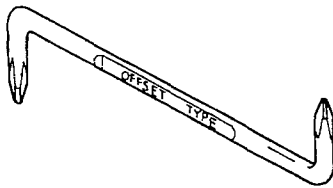
A short straight screwdriver

Fig.1

- 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.

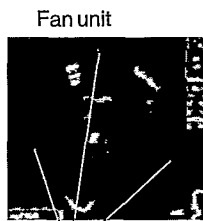
—OFFSET SCREWDRIVER—

- The PROTO offset screwdriver No.34-1/4 is recommended for use in the application above.



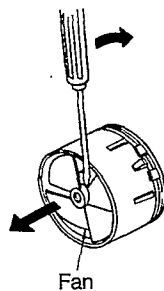
|        |       |        |
|--------|-------|--------|
| No.    |       |        |
| 34 1/4 | 1 & 2 | 4 3/4" |

**Replacement of the Fan Motor**

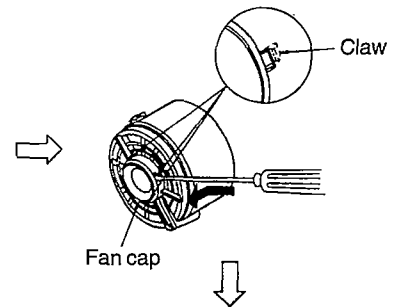


**Step 1**  
Release the 3 claws.

**Step 2**  
Put a screwdriver at the root of the fan and remove it.

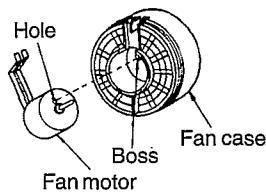


**Step 3**  
Remove the fan cap.

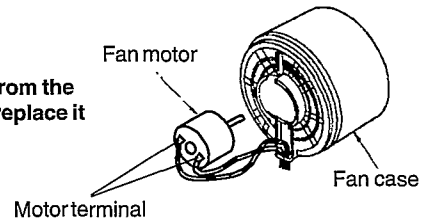


**NOTE**

When replacing the fan motor, align the boss of the fan case with the hole of the fan motor.



**Step 4**  
Desolder the wires from the motor terminal and replace it with a new one.



## ■ Caution for AC Mains Lead

### [For [EB] area.]

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 lead are coloured in accordance with the following code:


Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

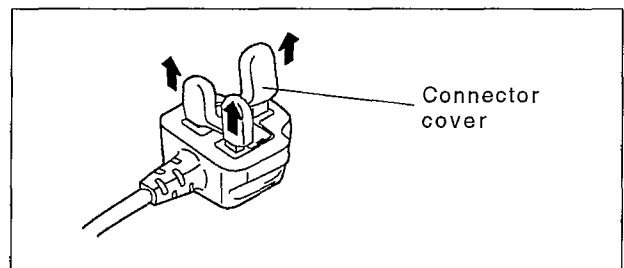
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either or these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth symbol .

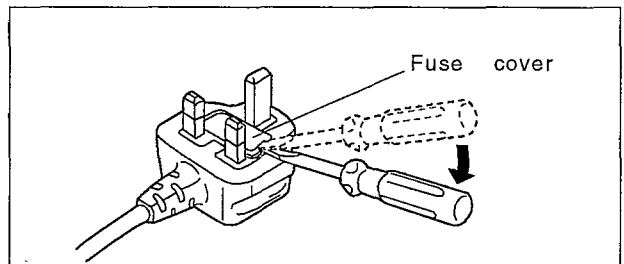
### Before use

Remove the connector cover as follows.

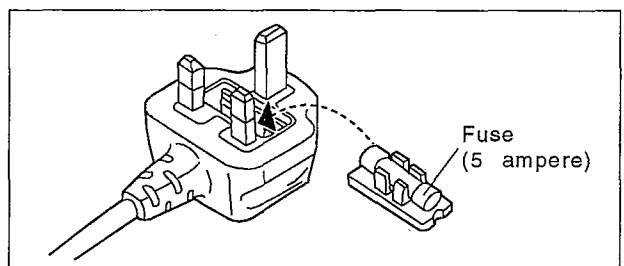


### How to replace the fuse

1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.

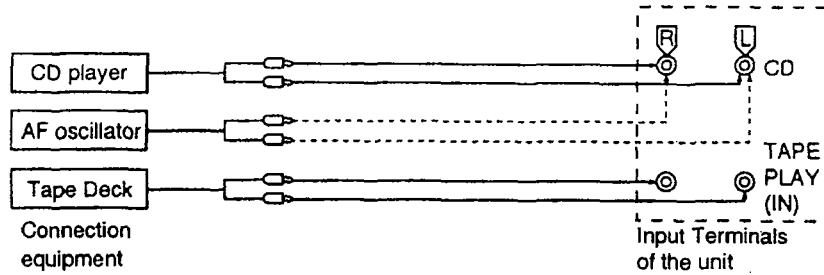


## Troubleshooting

This unit has test points on each circuit board block for use in troubleshooting.

### CONNECTION

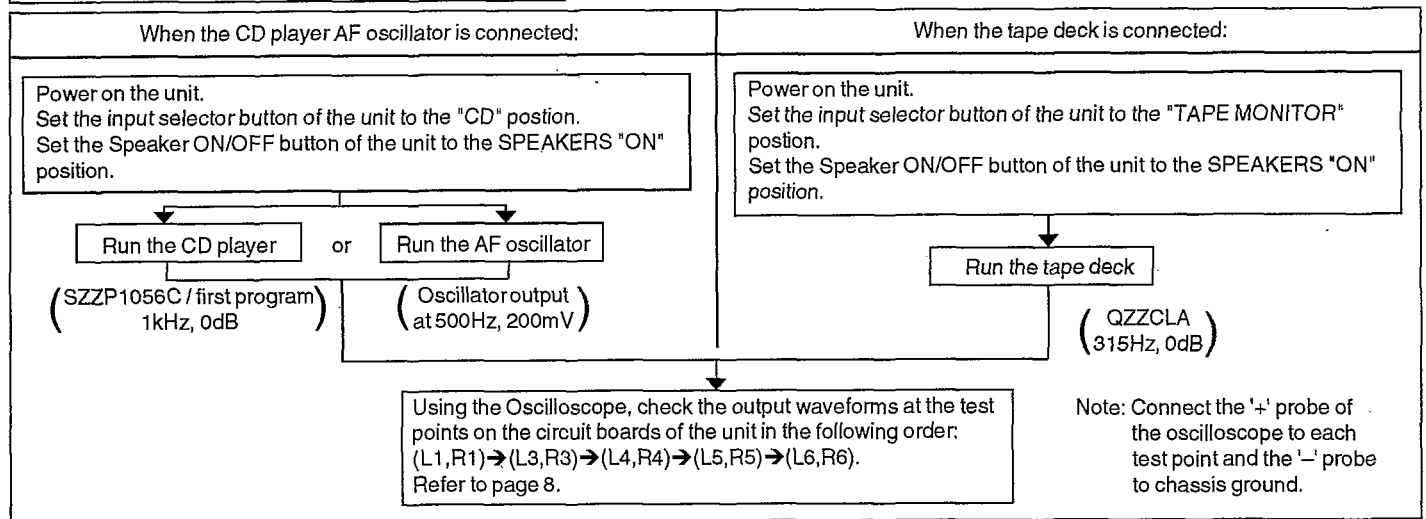
Connect either a CD player, tape deck or AF oscillator to the input terminals of the unit.



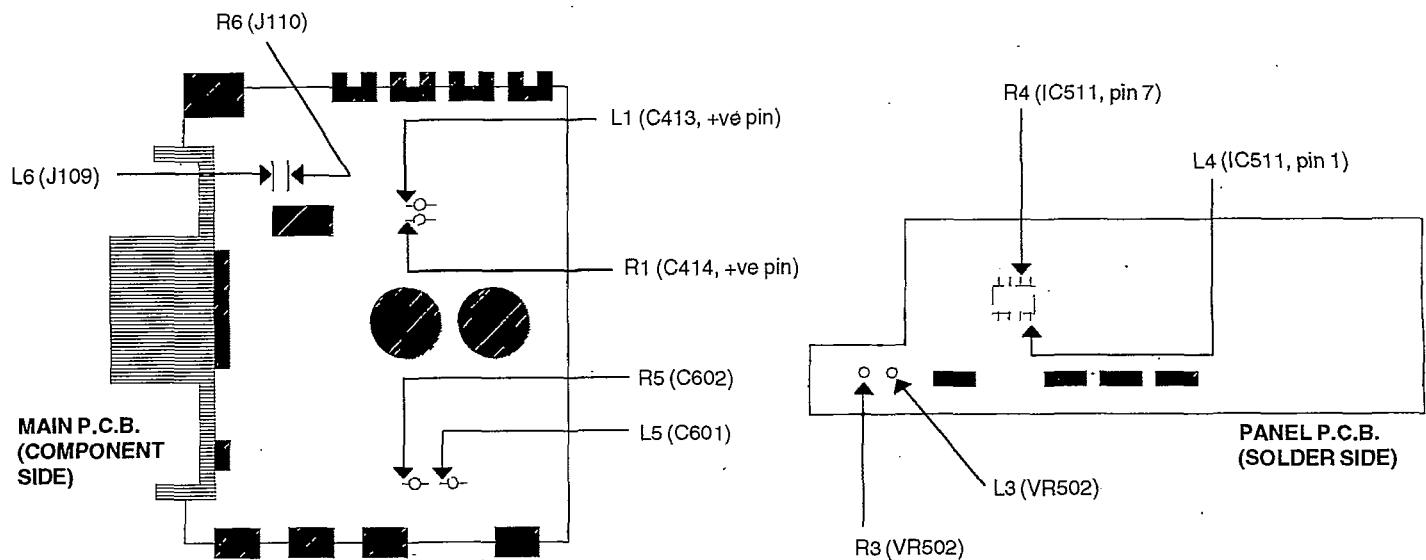
### REQUIRED ITEMS

1. Testing with a CD player ——— Test deck (SZZP1054C / first program, 1kHz, 0dB)
2. Testing with a tape deck ——— Test tape (QZZCLA / 315Hz, 0dB)
3. Testing with a AF oscillator ——— Set the output at 500Hz, 200mV
4. Oscilloscope (min. 10MHz) - - - - - To measure the output waveform at the test points.

### TEST PROCEDURE FOR AMPLIFIER CIRCUIT


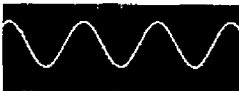
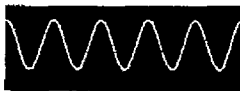


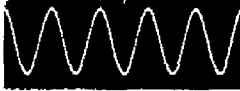

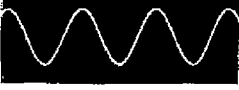
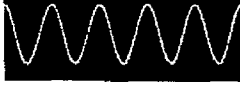



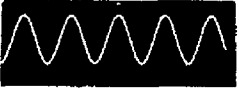
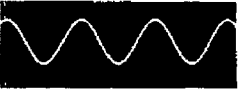
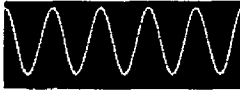


### TEST POINTS POSITIONS OF AMPLIFIER CIRCUIT





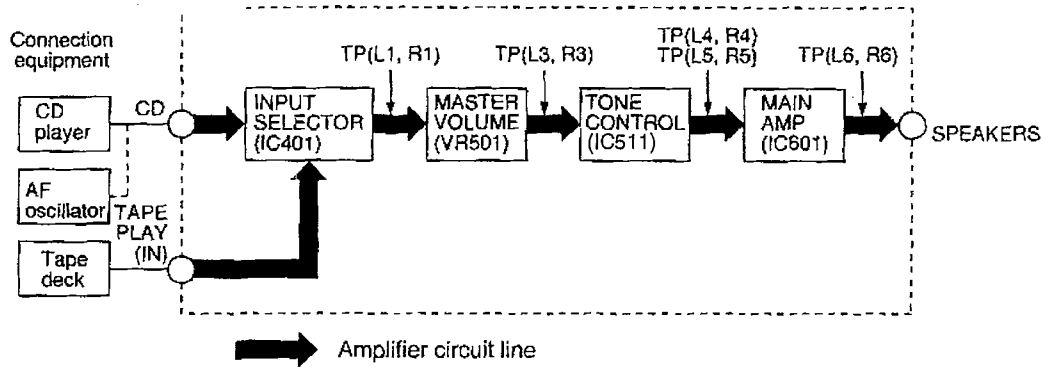
NORMAL WAVEFORMS OF AMPLIFIER CIRCUIT AND LIKELY FAULTY BLOCKS

| TP    | CD player  | Tape deck  | AF oscillator   | Likely faulty block if the normal waveform shown at the left is not present. |
|-------|--|--|---|--|
| L1/R1 | <br>0.5msec 2V    | <br>1msec 500mV | <br>1msec 500mV | Input selector block IC401 & area  |
| L3/R3 | <br>0.5msec 0.5mV | <br>1msec 100mV | <br>1msec 500mV | Master volume block VR501 & area   |
| L4/R4 | <br>0.5msec 5V    | <br>1msec 500mV | <br>1msec 500mV | Tone control block IC511 & area  |
| L5/R5 | <br>0.5msec 2V    | <br>1msec 500mV | <br>1msec 200mV |  |
| L6/R6 | <br>0.5msec 5V*   | <br>1msec 1V*   | <br>1msec 1V*   | Main amplifier block IC601 & area  |

Measurement conditions. Volume control (VR501), Tremble control (VR512) and Bass control (VR511) positions :  $\odot$   
 \*Volume control position (VR501) for these test :  $\odot$

CIRCUIT BLOCKS

CIRCUIT BLOCKS OF THE MAIN UNIT



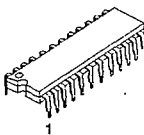
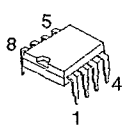
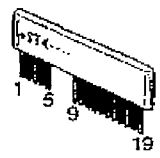
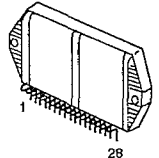
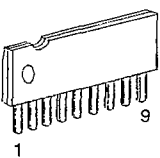
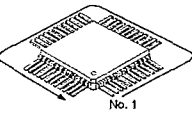
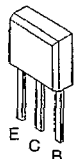
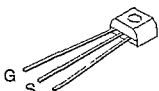
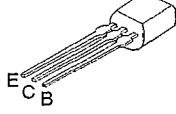
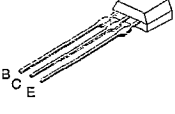
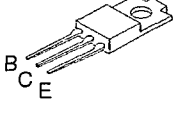
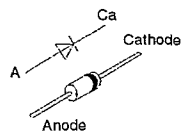
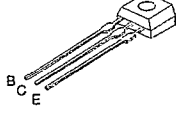
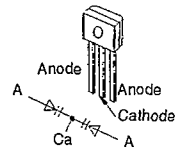
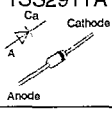
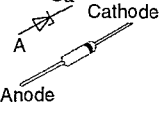
## Terminal Functions Of ICs

### • IC901 (UPD78043D047) System Microprocessor

| Pin No. | Mark       | I/O | Function                        |
|---------|------------|-----|---------------------------------|
| 1~7     | D4~D10     | O   | Digit signal of FL display      |
| 8       | VDD        | I   | Power supply terminal           |
| 9       | SUR/OSD_CK | -   | Not used                        |
| 10      | SUR/OSD_DT | -   | Not used                        |
| 11      | VIDEO_DET  | I   | RDS detect terminal             |
| 12      | SUR_CE     | -   | Not used                        |
| 13      | VOL_UP     | O   | Rotate control terminal of      |
| 14      | VOL_DWN    | O   | volume motor                    |
| 15      | LOUDNESS   | -   | Not used                        |
| 16      | FM_STEREO  | I   | Stereo signal detect terminal   |
| 17      | RESET      | I   | Reset detect terminal           |
| 18      | SD         | I   | Received signal detect terminal |
| 19      | OSD_ST     | -   | Not used                        |
| 20      | GND        | -   | GND terminal                    |
| 21      | VIDEO_B    | -   | Not used                        |
| 22      | VIDEO_A    | -   | Not used                        |
| 23      | IF_DATA    | I   | Serial data signal              |
| 24      | THERMAL    | -   | Not used                        |
| 25~28   | KEY1~KEY4  | I   | Key matrix detect terminal      |
| 29      | AVDD       | I   | Power supply terminal           |
| 30      | AVREF      | I   | Power supply terminal           |
| 31      | OVERLOAD   | I   | Over load detect terminal       |
| 32      | XT2        | -   | Not used                        |
| 33      | GND        | -   | GND terminal                    |
| 34      | XIN        | I   | Crystal oscillator terminal     |
| 35      | XOUT       | O   | (4MHz)                          |

| Pin No. | Mark        | I/O | Function                        |
|---------|-------------|-----|---------------------------------|
| 36~39   | SFC1~SFC4   | -   | Not used                        |
| 40      | RDS DT      | I   | RDS data signal                 |
| 41      | TNR_CE      | O   | Chip enable signal              |
| 42      | SEL/TNR_DT  | O   | Serial data signal              |
| 43      | SEL/TNR_CK  | O   | Serial clock signal             |
| 44      | RDS ST      | O   | RDS start signal                |
| 45      | RDS CLK     | O   | RDS clock signal                |
| 46      | HOLD        | I   | Hold signal input terminal      |
| 47      | REMOTE      | I   | Remote control terminal         |
| 48      | GND         | -   | Not used                        |
| 49      | SEL_ST      | O   | Level shift control terminal    |
| 50      | HELP_LED    | -   | Not used                        |
| 51      | STANDBY_LED | -   | Not used                        |
| 52      | VDD         | I   | Power supply terminal           |
| 53      | REC_MUTE    | -   | Not used                        |
| 54      | S/C_SP      | -   | Not used                        |
| 55      | SP_B        | -   | Not used                        |
| 56      | SP_A        | O   | Speaker select control terminal |
| 57      | POWER_RLY   | O   | Relay control terminal          |
| 58      | AF_MUTE     | O   | Muting control terminal         |
| 59      | LIMITTER    | -   | Not used                        |
| 60      | INIT_IN     | -   | Not used, connect to resistor   |
| 61~70   | S16~S7      | O   | Segment signal of FL display    |
| 71      | VLOAD       | I   | Power supply terminal           |
| 72~77   | S6~S1       | O   | Segment signal of FL display    |
| 78~80   | D1~D3       | O   | Digit signal of FL display      |

## Terminal Guide of ICs, Transistors and Diodes

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <p>LA1832A (24P)<br/>LC7218 (24P)<br/>TC9163N (28P)</p>  | <p>AN6558-F<br/>M5218AP<br/>UPC4570C</p>  | <p>STK311-010</p>                     | <p>RSN3305-P</p>    | <p>BA6218</p>                       | <p>UPD78043D036 (80P)</p>         |
| <p>2SC3311ARTA</p>                                       | <p>2SK544F-AC</p>                         | <p>2SA1534AQRTA<br/>2SC3940AQSTA</p>  | <p>RVTDTTC144YST<br/>2SA933SSTA</p>   | <p>2SB1548PQAU<br/>2SD2374PQAU</p>  | <p>1N5402BM21<br/>SB360L6508</p>  |
| <p>2SC2785FETA<br/>2SC2786MTA</p>                        | <p>2SC2787FL1TA<br/>2SC2787LTA<br/>2SA1309ARTA<br/>2SD1915FTA<br/>UN411FTA<br/>UN421FTA</p>                                  | <p>SVC211SPA-AL</p>                   | <p>RVD1SS133TA<br/>MTZJ5R1BTA<br/>1SR35200TB<br/>MA700ATA<br/>1SS291TA</p>  | <p>MTZJ16CTA<br/>MTZJ3R9ATA</p>     | <p>MTZJ4R7BTA<br/>MTZJ6R2BTA<br/>MTZJ6R8BTA<br/>MTZJ7R5CTA<br/>MTZJ24DTA</p>   |

## Schematic Diagram

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

Note :

< for Headphone Jack circuit and Operation circuit > (Page 11)


< for Tuner circuit > (Page 12 ~ 15)

< for Main circuit > (Page 16 ~ 17)

< for Power Supply circuit, Transformer circuit, Panel circuit and Volume circuit > (Page 18 ~ 20)

|        |   |                           |                     |   |                                      |
|--------|---|---------------------------|---------------------|---|--------------------------------------|
| • S946 | : | Power switch              | • S962              | : | Tape select switch                   |
| • S947 | : | Phono select switch       | • S964              | : | VCR select switch                    |
| • S948 | : | Muting switch             | • S970              | : | Search select switch                 |
| • S950 | : | FM Auto/ Mono switch      | • S971              | : | Enhanced other network select switch |
| • S951 | : | Band select switch        | • S972              | : | Program type increase switch         |
| • S952 | : | Tuning decrease switch    | • S973              | : | Program type decrease switch         |
| • S953 | : | Tuning increase switch    | • S974              | : | Display mode select switch           |
| • S954 | : | Memory manual/auto switch | • S980              | : | Speakers on/off switch               |
| • S956 | : | Preset decrease switch    | • VR501-1 ~ VR501-2 | : | Volume control                       |
| • S957 | : | Preset increase switch    | • VR502             | : | Balance control                      |
| • S960 | : | Tuner select switch       | • VR511-1 ~ VR511-2 | : | Bass control                         |
| • S961 | : | CD select switch          | • VR512-1 ~ VR512-2 | : | Treble control                       |

### • Signal line

|   |   |                  |   |   |                    |
|---|---|------------------|---|---|--------------------|
|  | : | +B line          |  | : | AM signal line     |
|  | : | Main signal line |  | : | AM OSC signal line |
|  | : | FM signal line   |  | : | FM OSC 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.

( ) ..... AM

< > ..... FM

### •Importance safety notice:

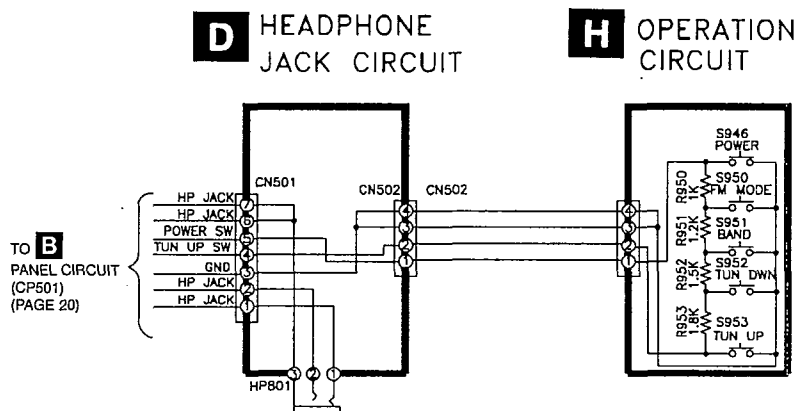
Components identified by  $\Delta$  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's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

### Caution !

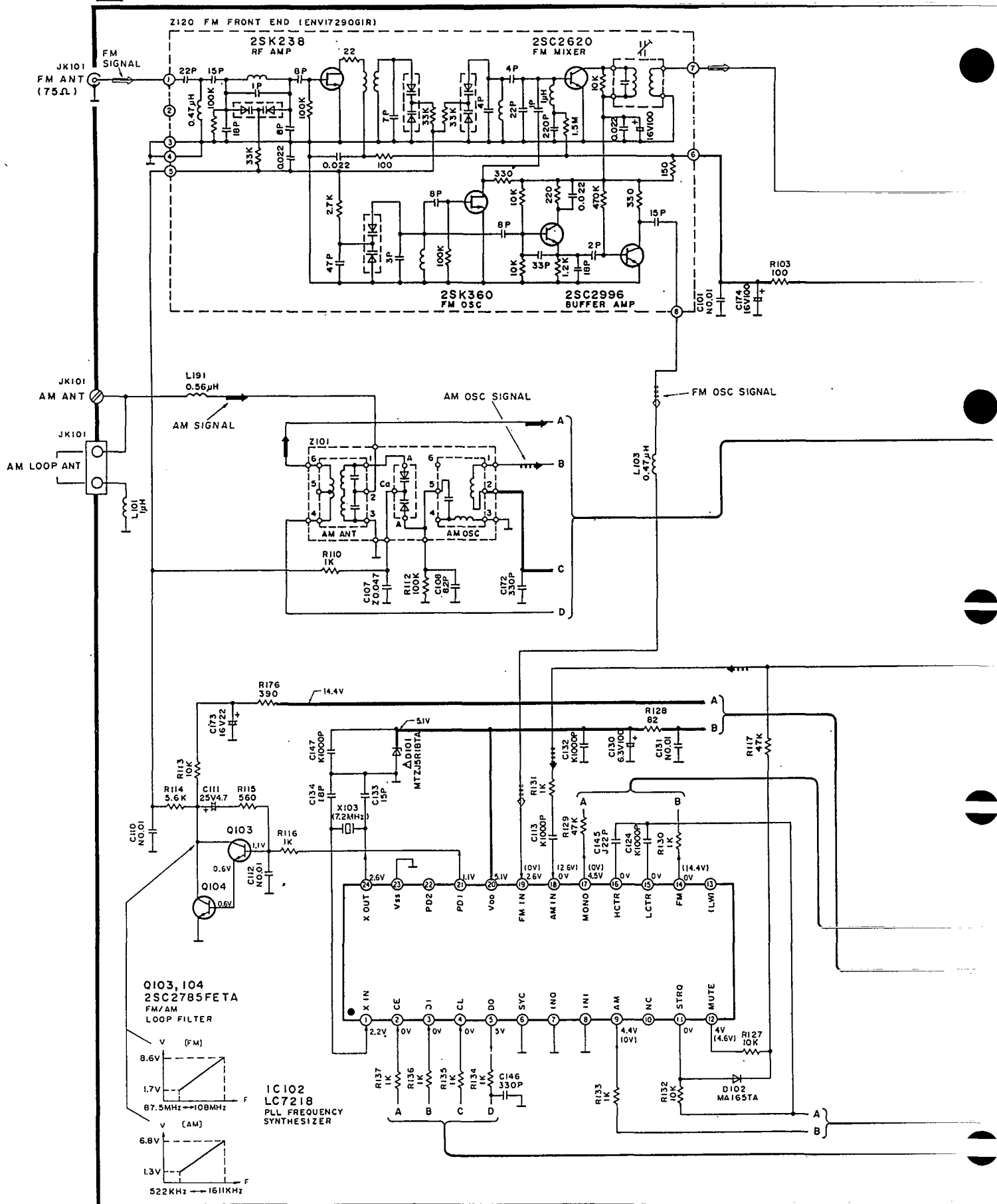
IC, LSI and VLSI are sensitive to static electricity.

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

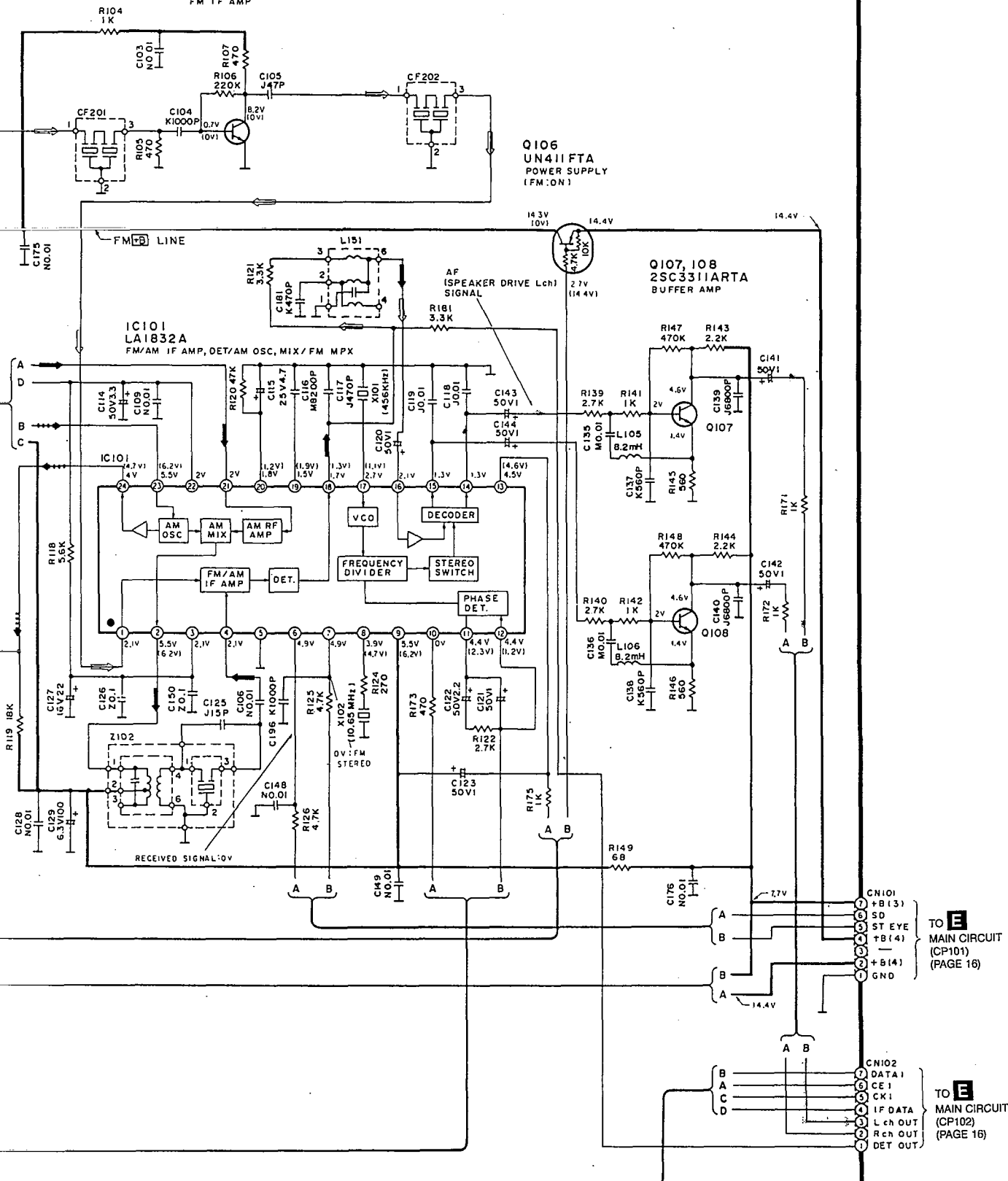


Q101  
2SC2787LTA  
FM IF AMP

Q106  
UN411FTA  
POWER SUPPLY  
(FM:ON)

Q107, 108  
2SC3311ARTA  
BUFFER AMP

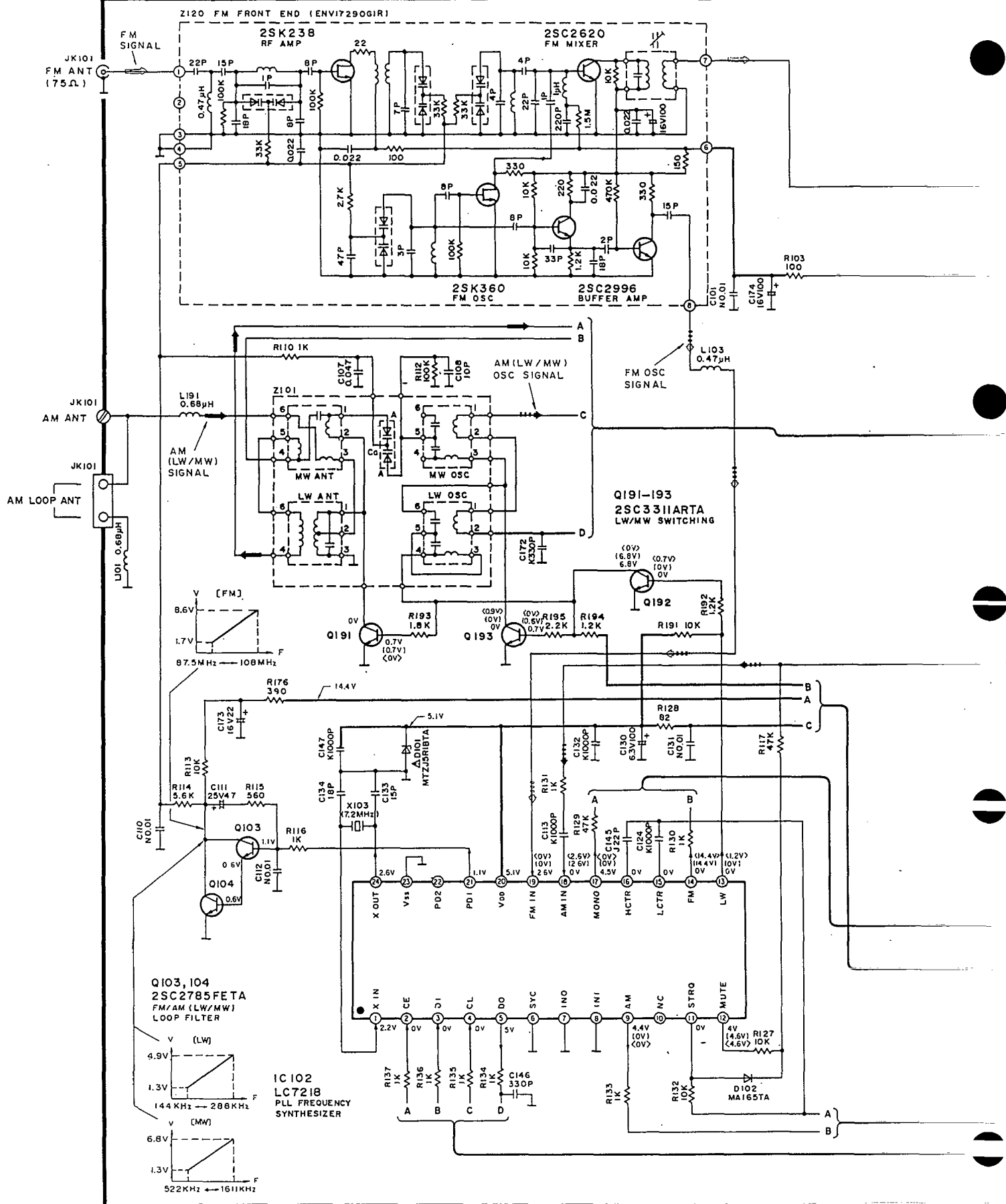
IC101  
LA1832A  
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX

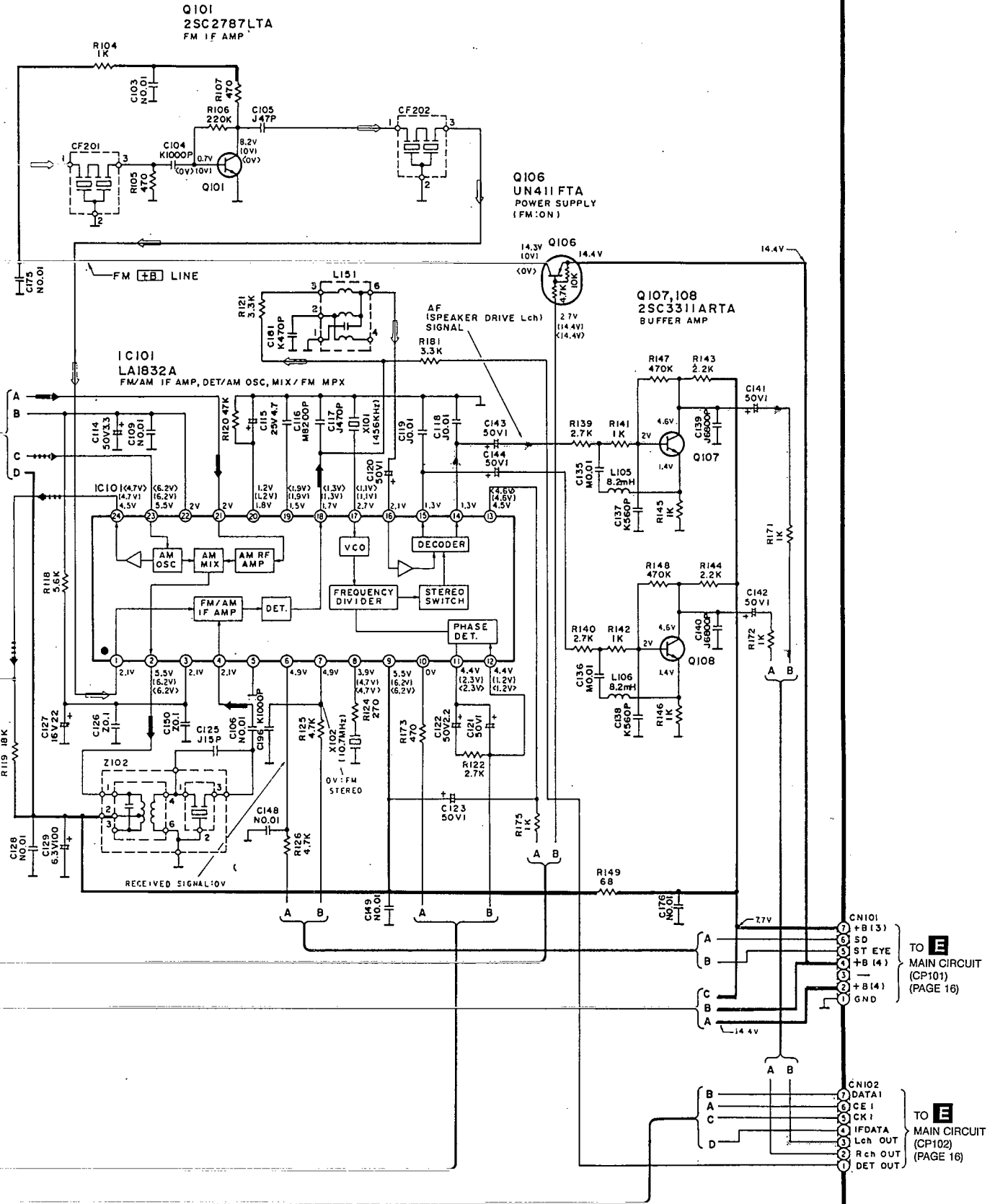


TO **E**  
MAIN CIRCUIT  
(CP101)  
(PAGE 16)

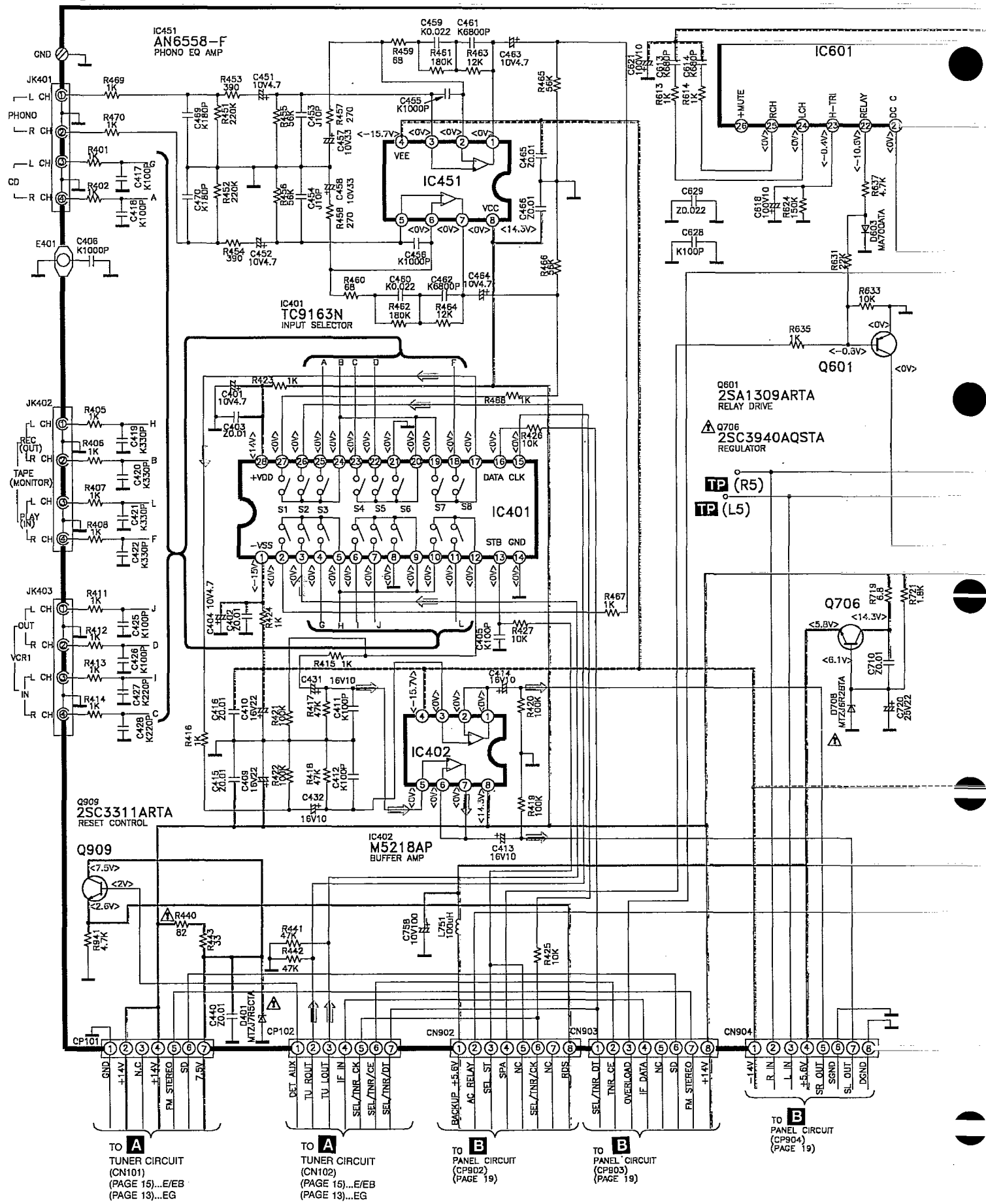
TO **E**  
MAIN CIRCUIT  
(CP102)  
(PAGE 16)

**A** TUNER CIRCUIT For (E) & (EB) areas

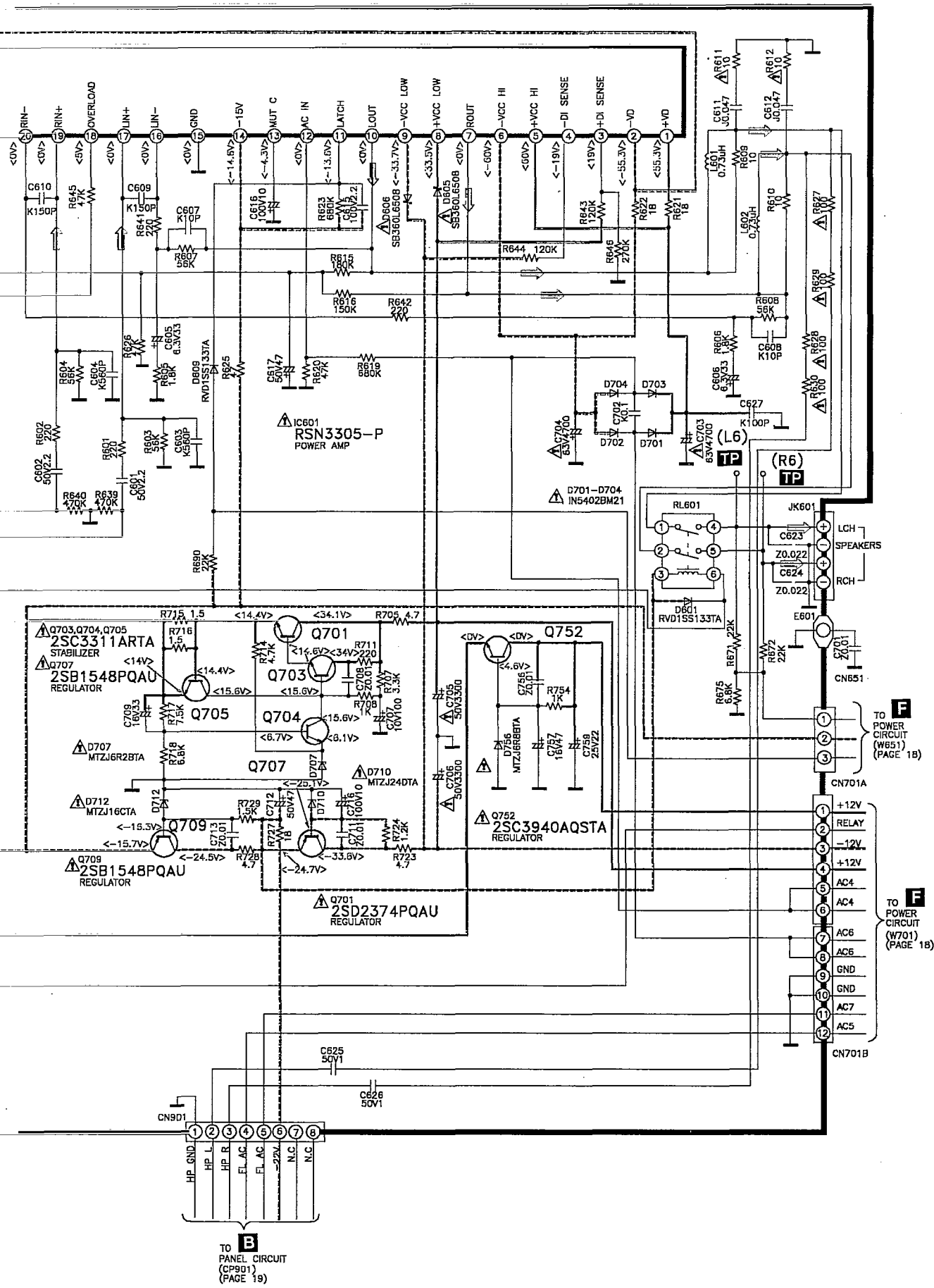




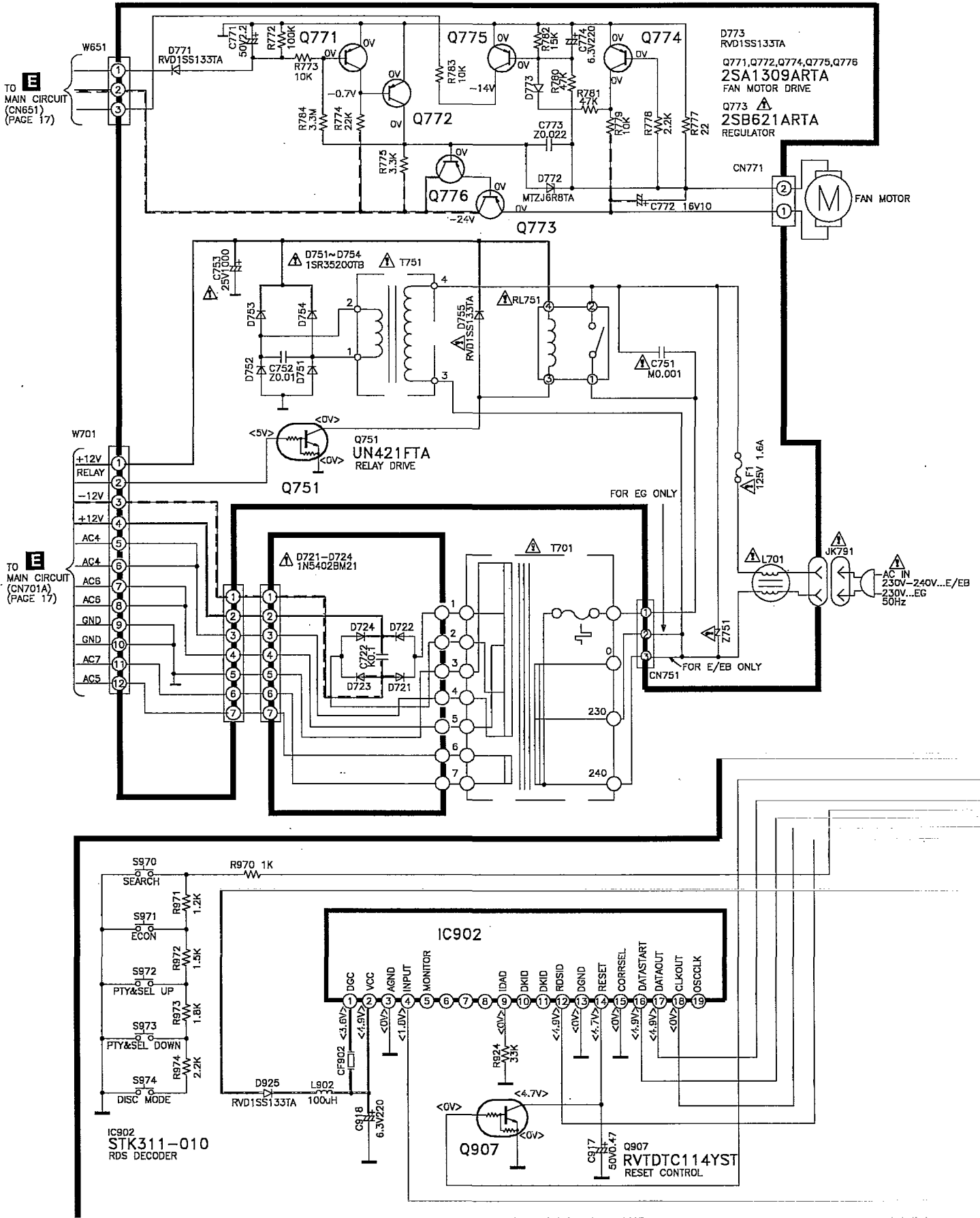
**E** MAIN CIRCUIT





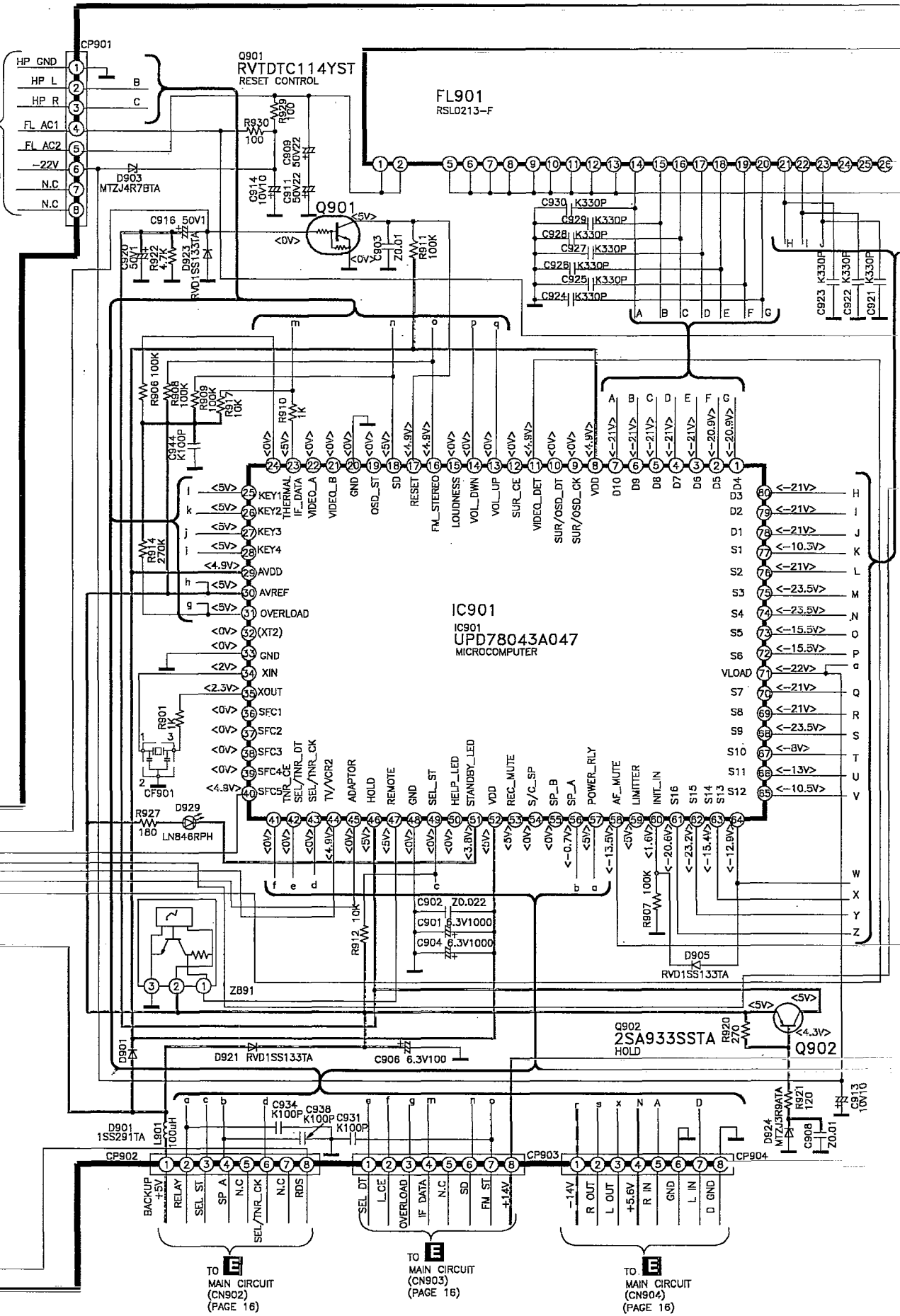


**F** POWER CIRCUIT



**B** PANEL CIRCUIT

TO **E** MAIN CIRCUIT (CN901) (PAGE 17)

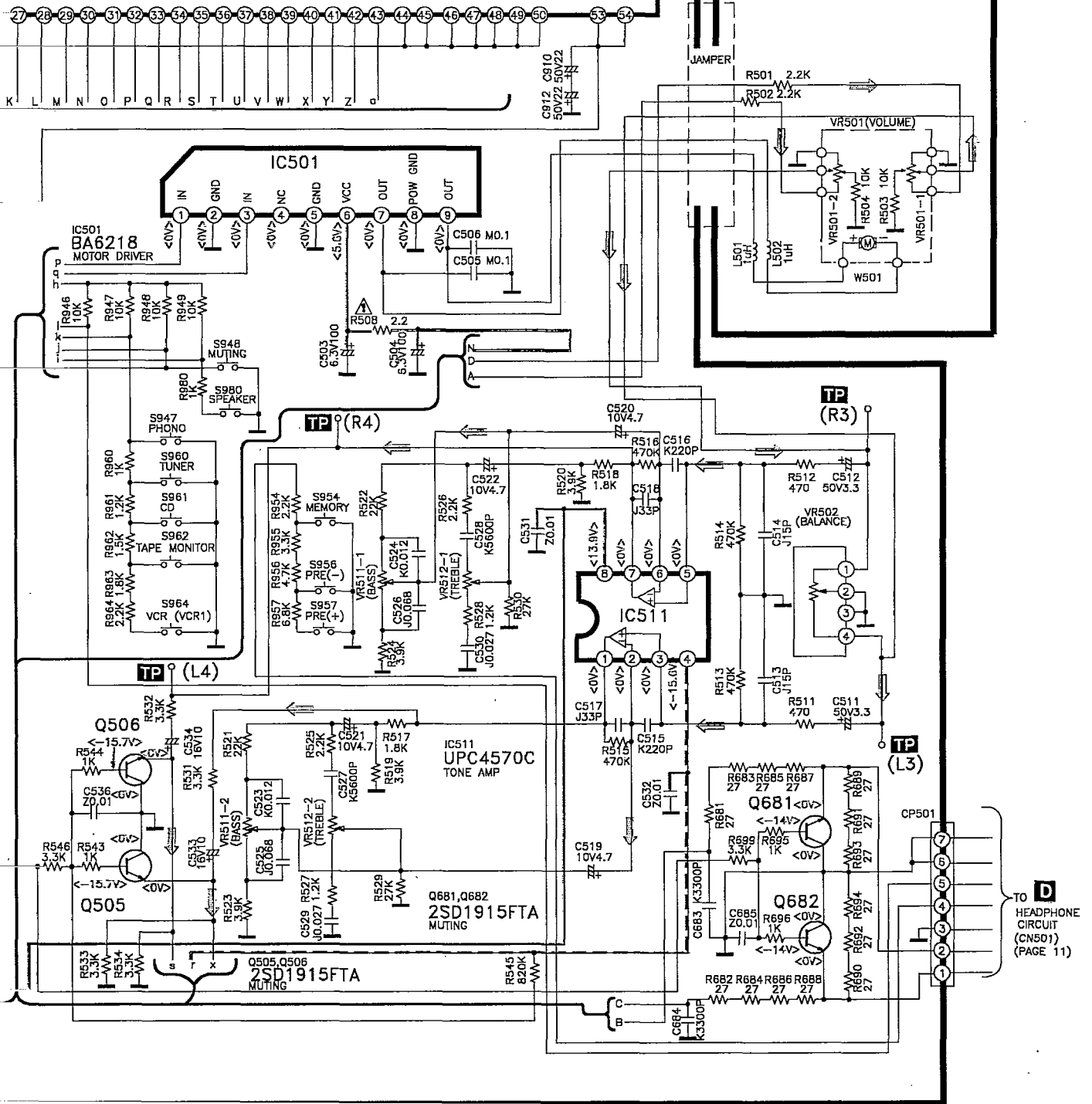


TO **E** MAIN CIRCUIT (CN902) (PAGE 16)

TO **E** MAIN CIRCUIT (CN903) (PAGE 16)

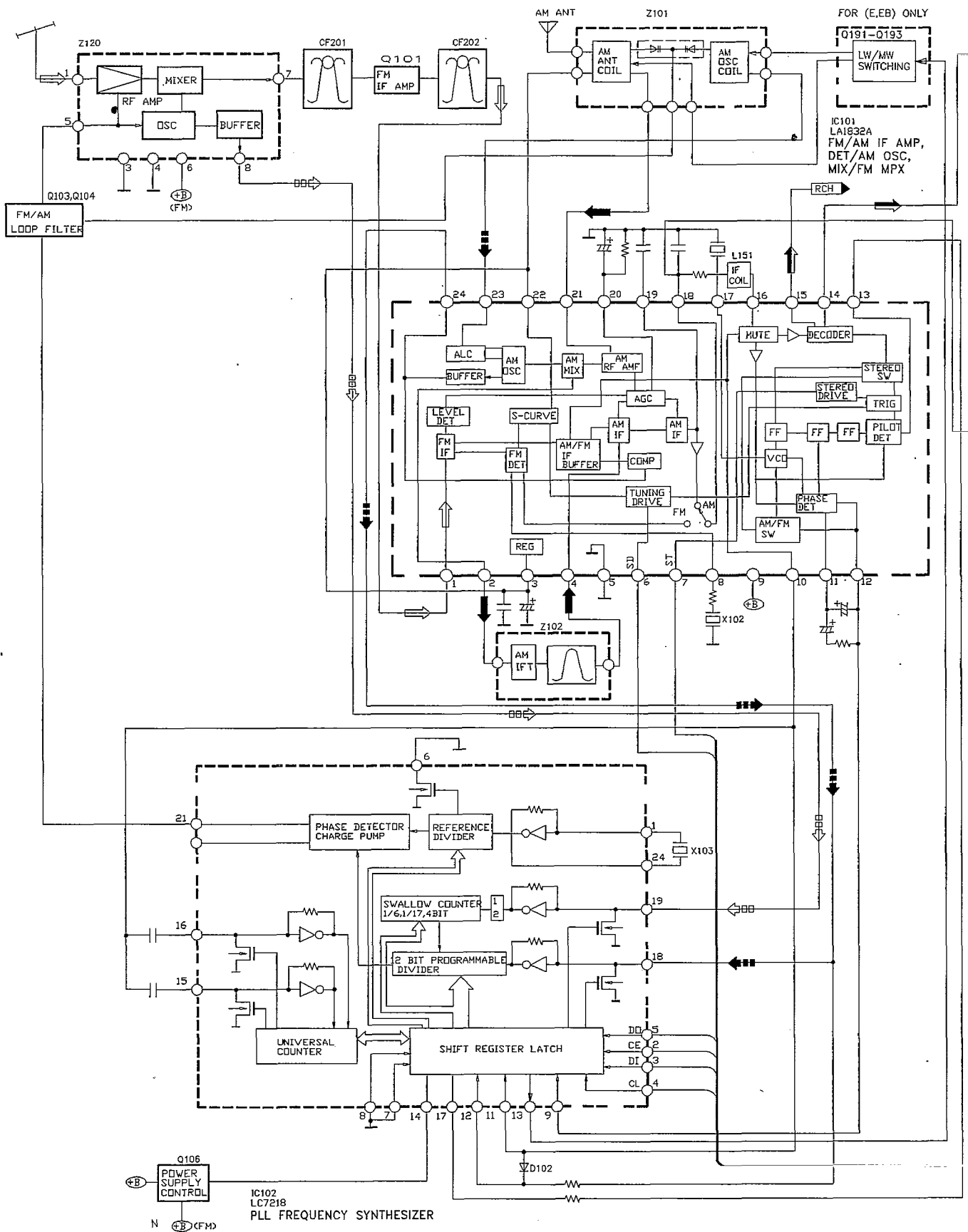
TO **E** MAIN CIRCUIT (CN904) (PAGE 16)

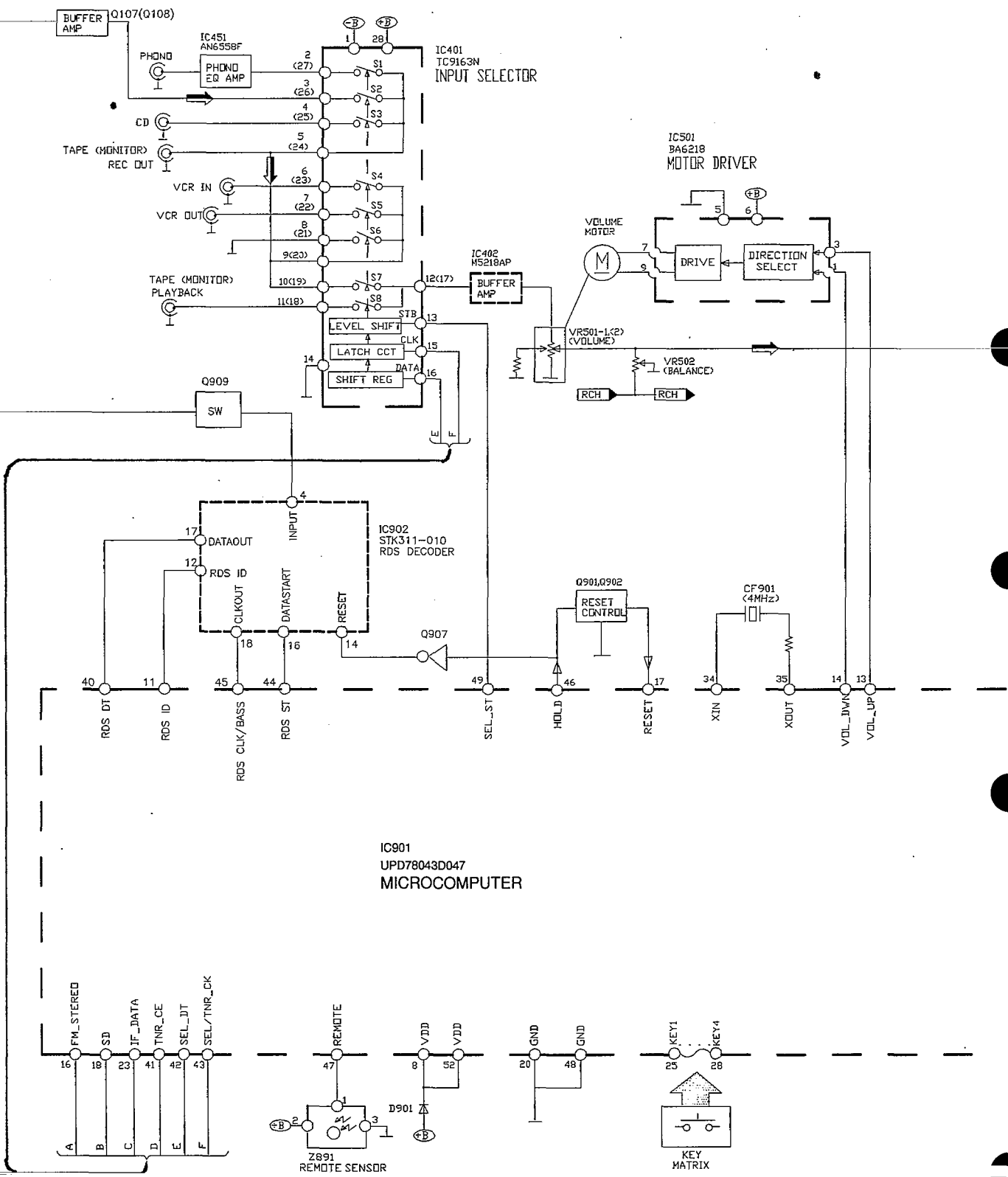
**C** VOLUME CIRCUIT

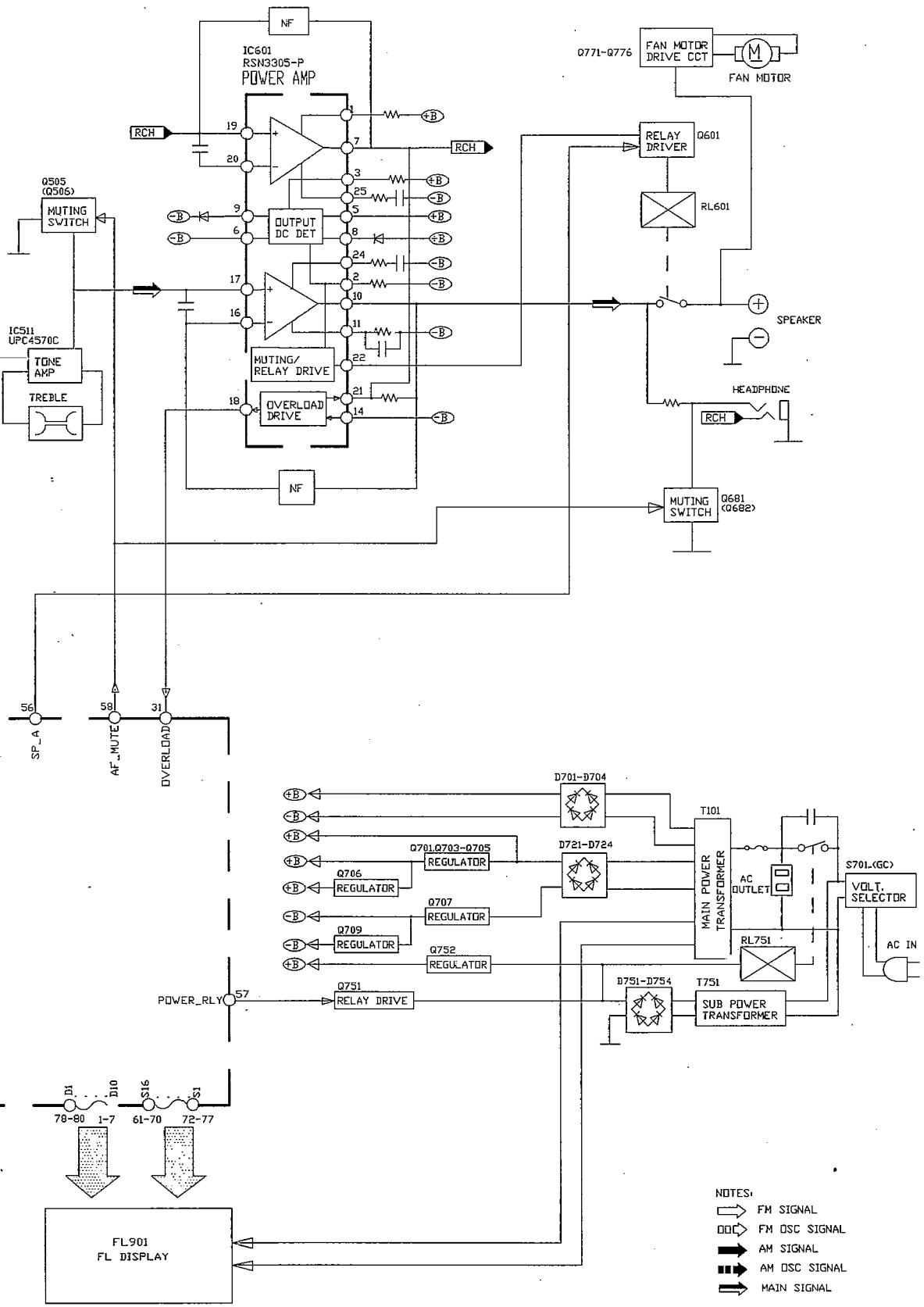


**D** TO HEADPHONE CIRCUIT (CN501) (PAGE 11)

# Block Diagram

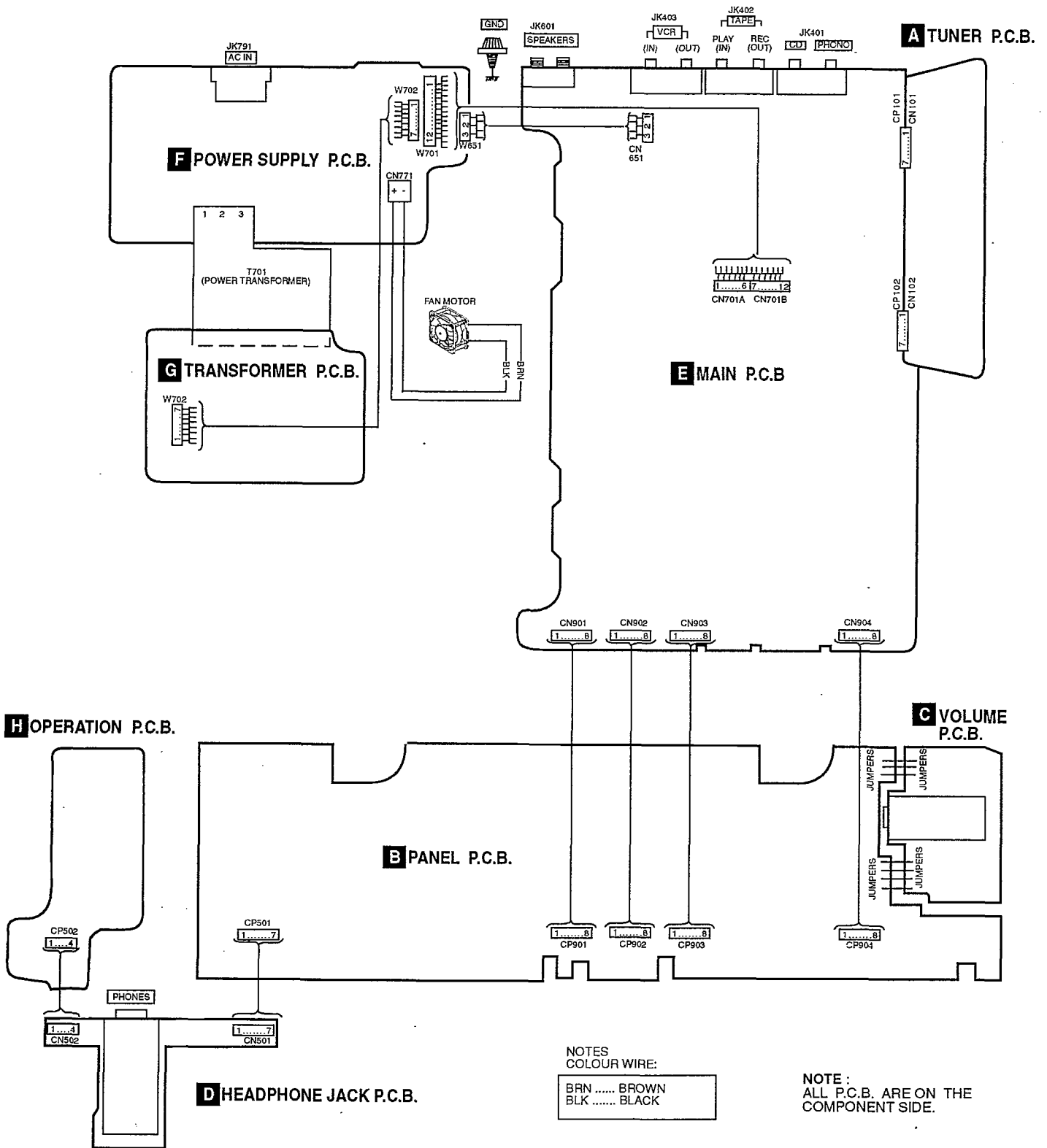






- NOTES:
- ↷ FM SIGNAL
  - DCC FM OSC SIGNAL
  - AM SIGNAL
  - DCC AM OSC SIGNAL
  - ➡ MAIN SIGNAL

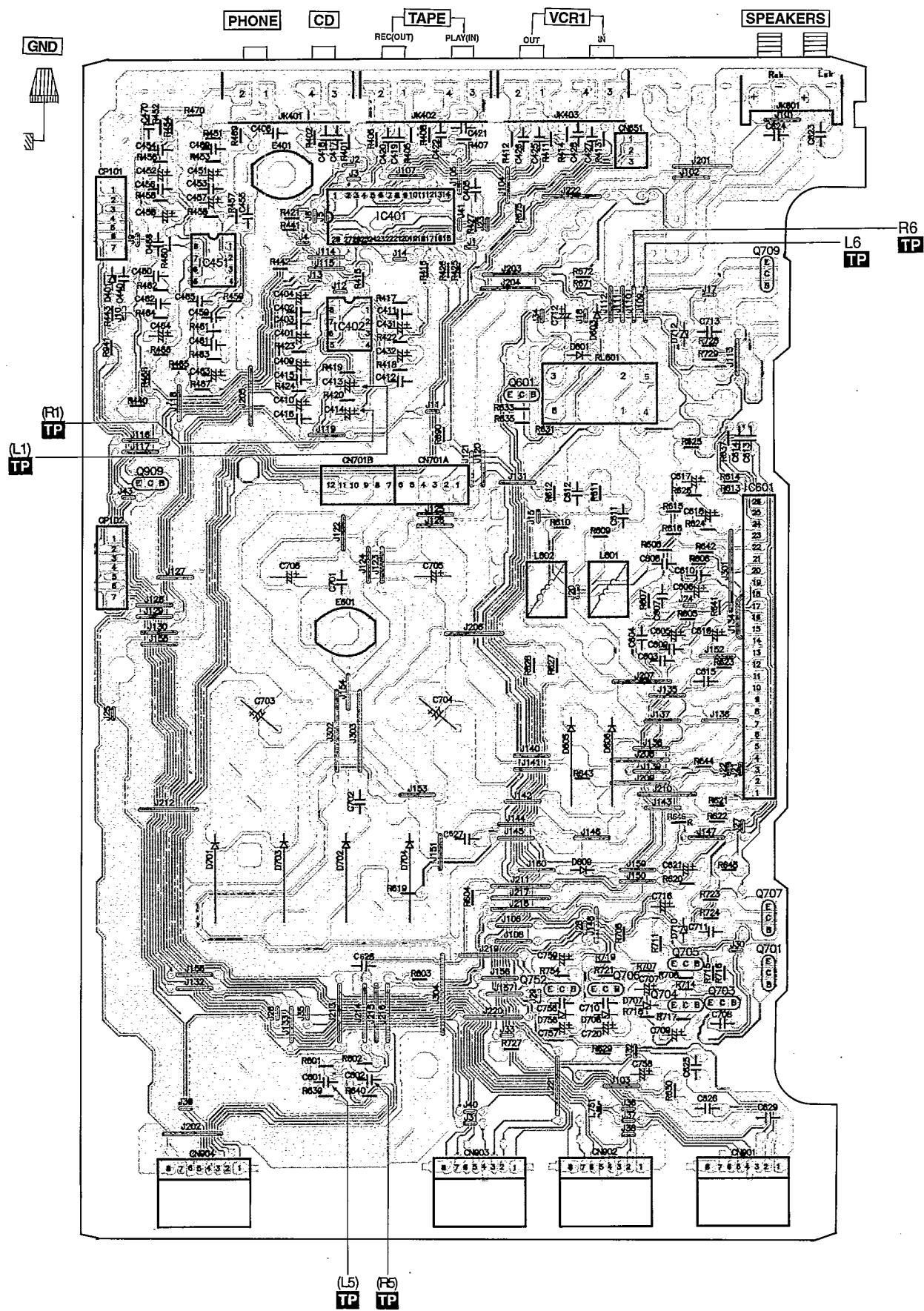
# Wiring Connection Diagram



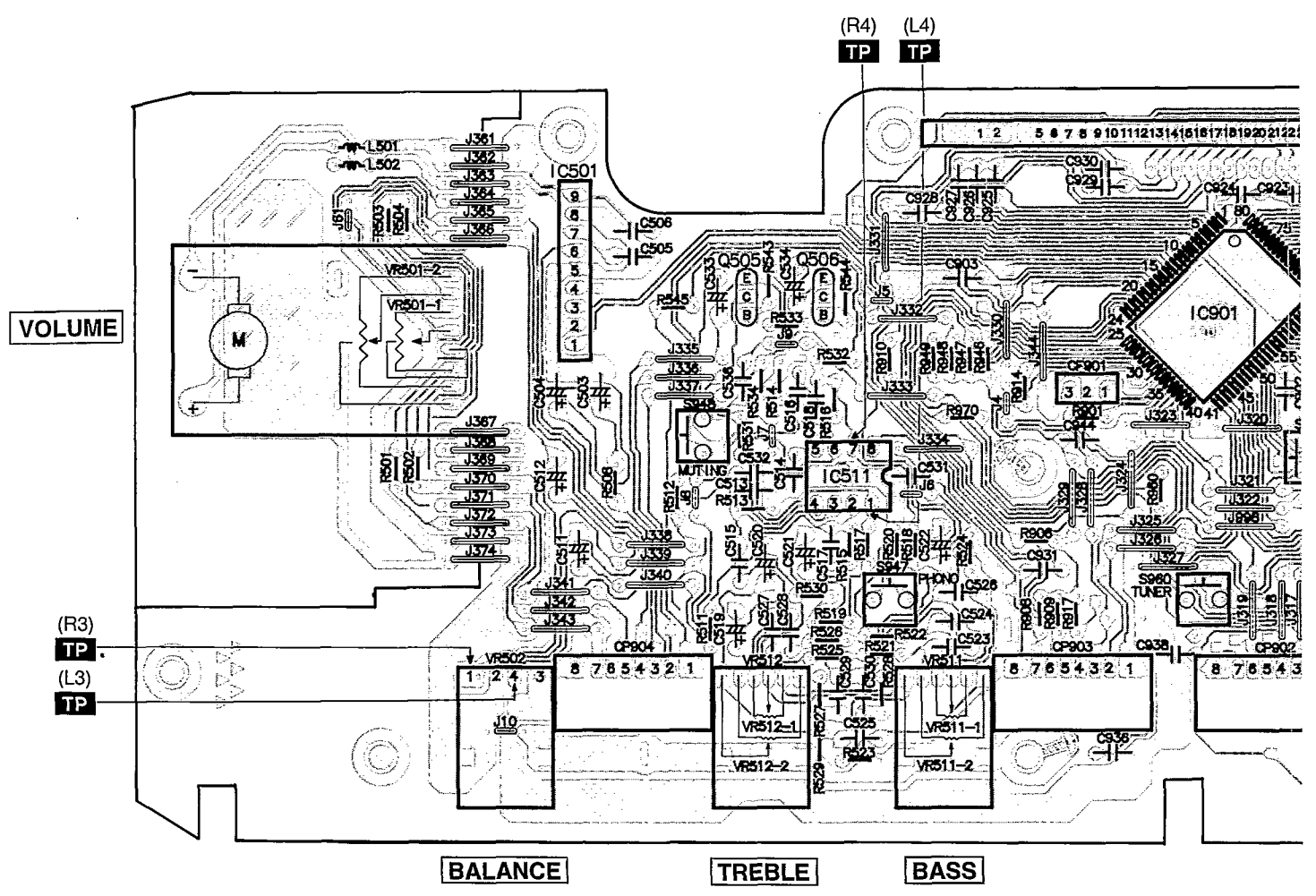


# Printed Circuit Board

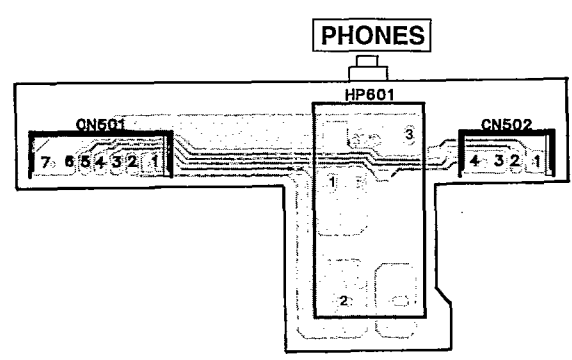
## MAIN P.C.B. (REP2251B-M)



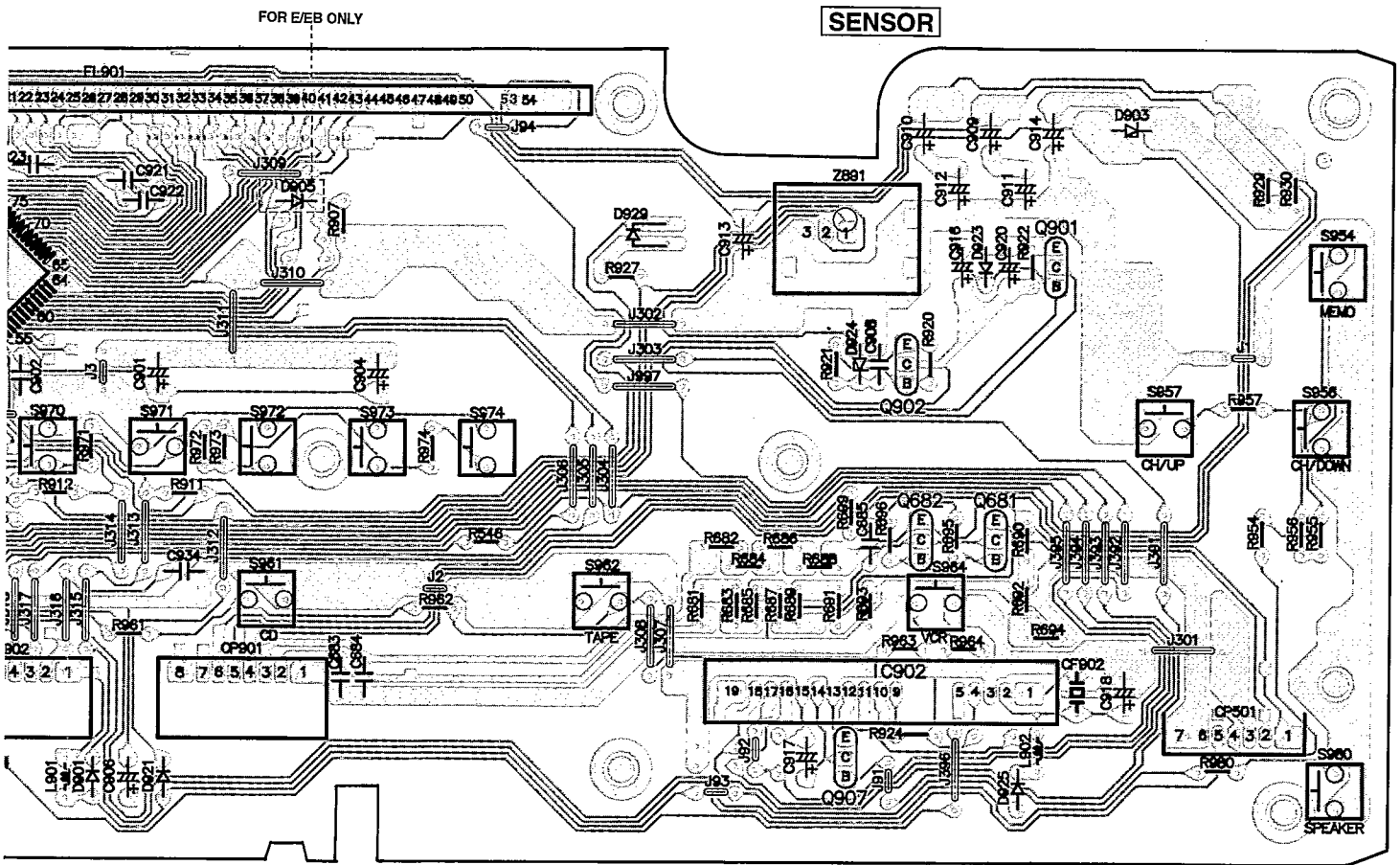
**C VOLUME P.C.B. (REP2252B-S .. E,EB) (REP2252C-S .. EG)**



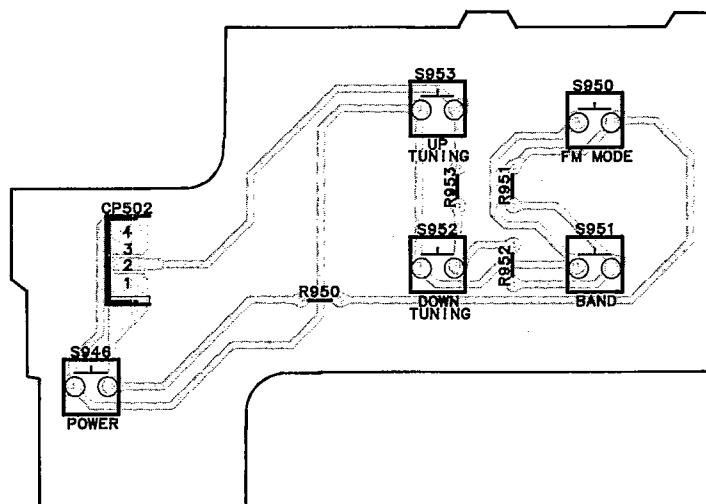
**D HEADPHONES JACK P.C.B. (REP2252B-S .. E,EB) (REP2252C-S .. EG)**



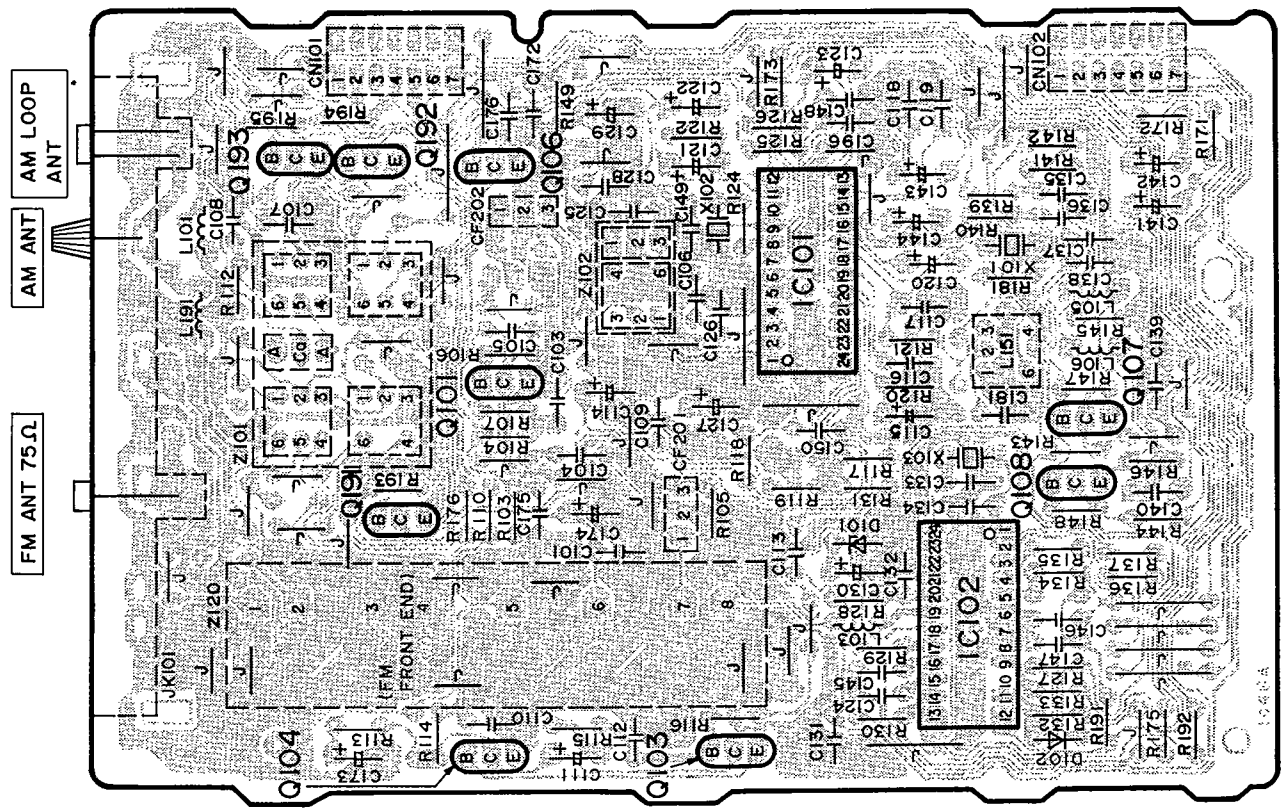
**B** PANEL P.C.B. (REP2252B-S .. E,EB) (REP2252C-S .. EG)



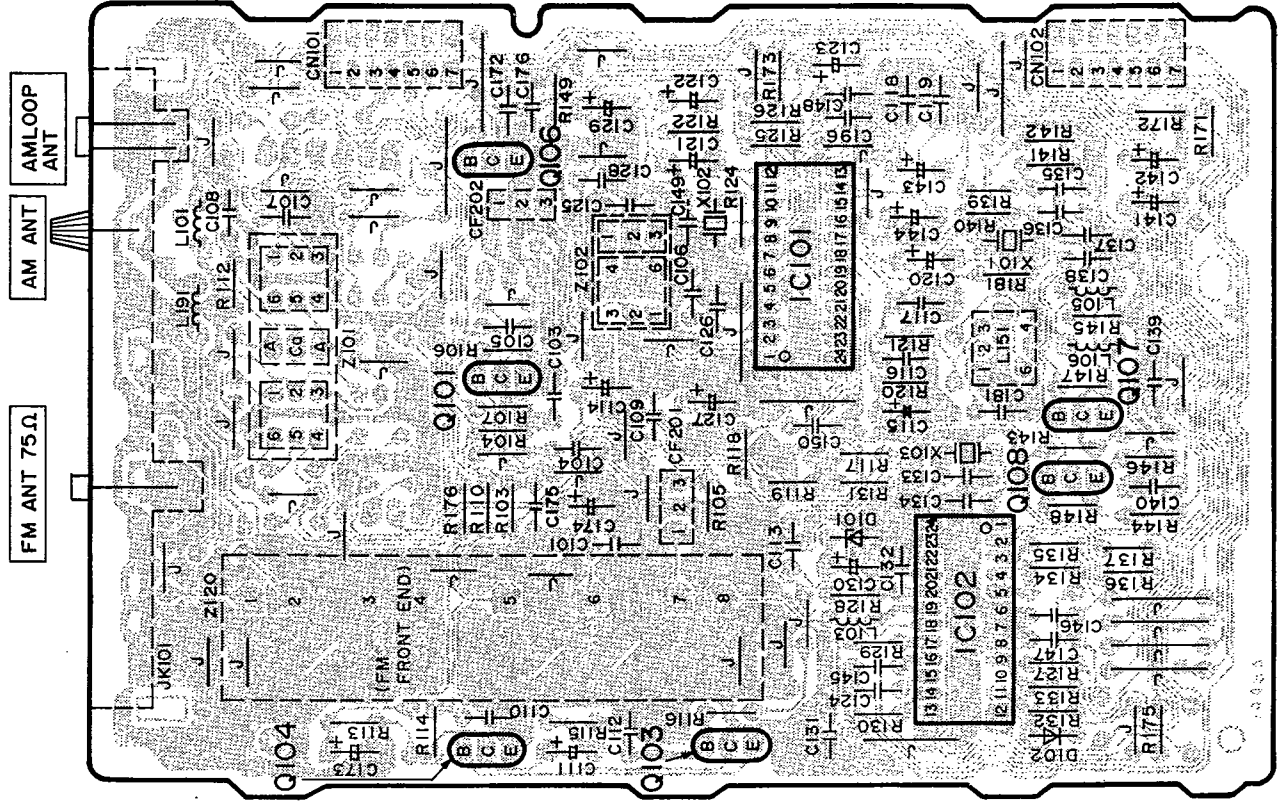
**H** OPERATION P.C.B. (REP2252B-S .. E,EB) (REP2252C-S .. EG)



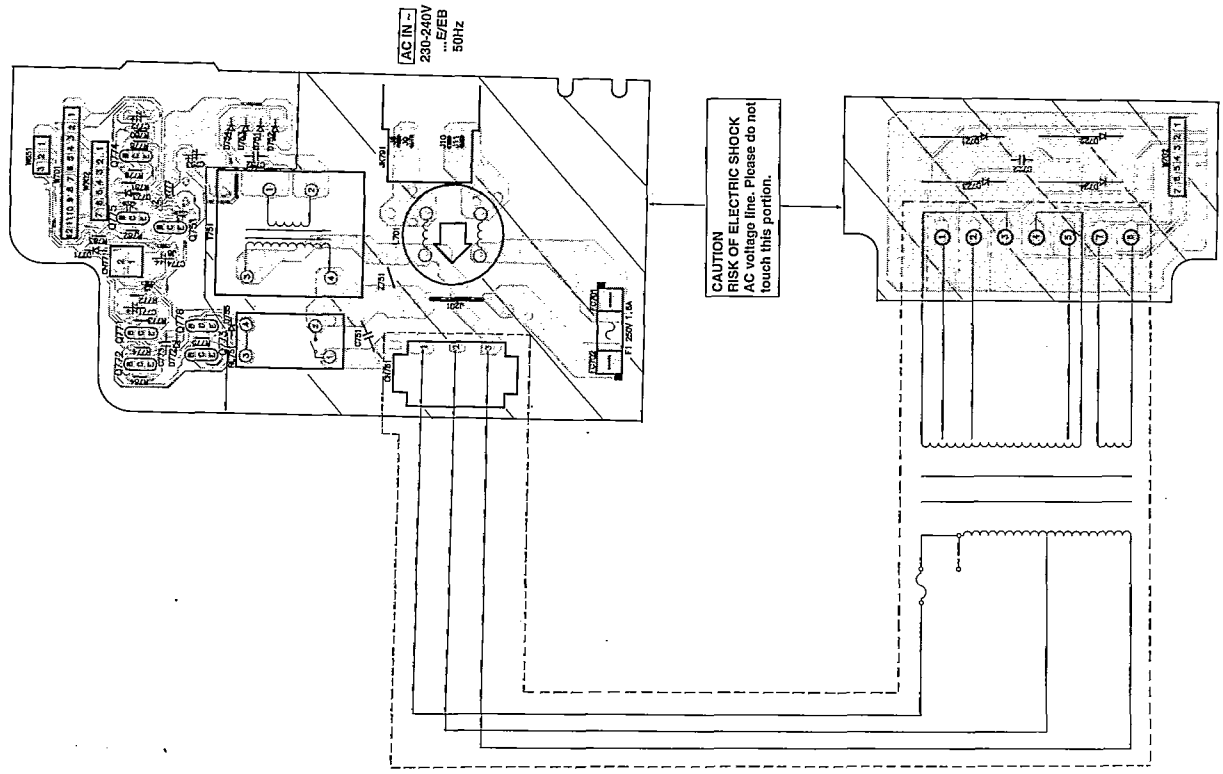
**A TUNER P.C.B. (REP2158B-T .. E,EB)**



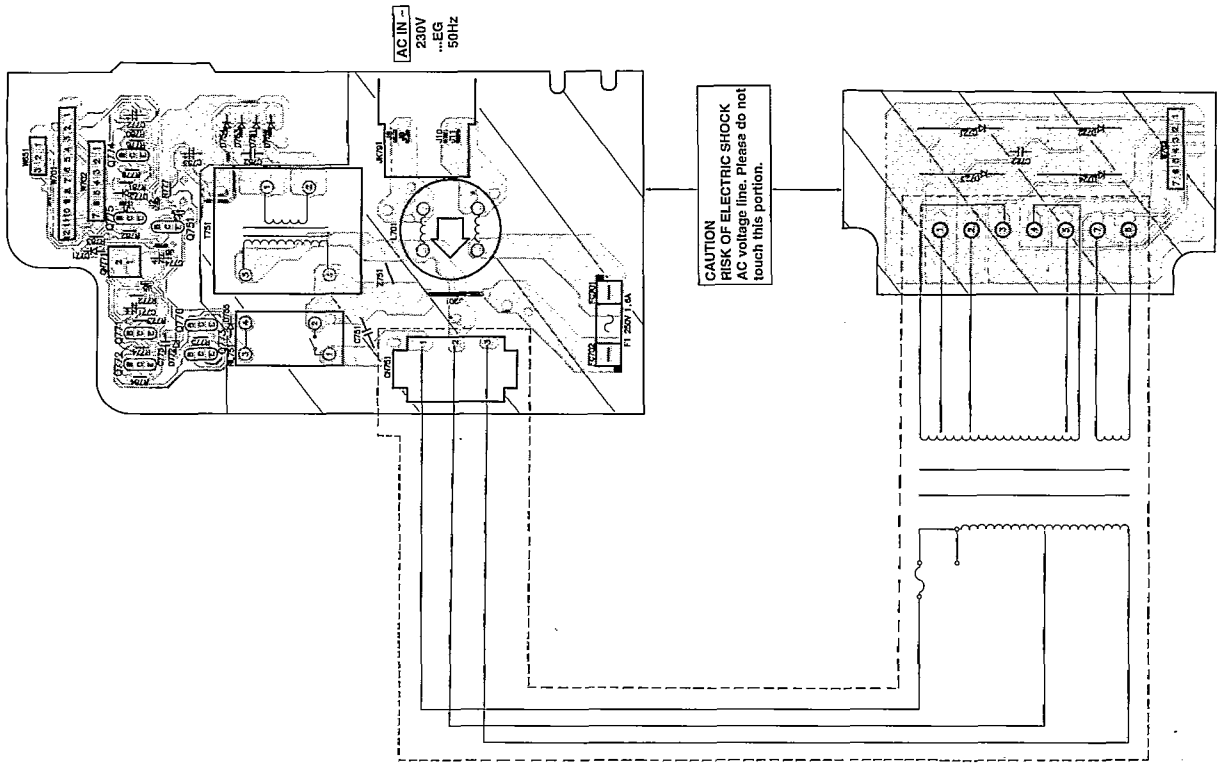
**A TUNER P.C.B. (REP2158A-T .. EG)**



**F** POWER SUPPLY P.C.B. (REP2253B-P .. E,EB) **F** POWER SUPPLY P.C.B. (REP2253C-P .. EG)

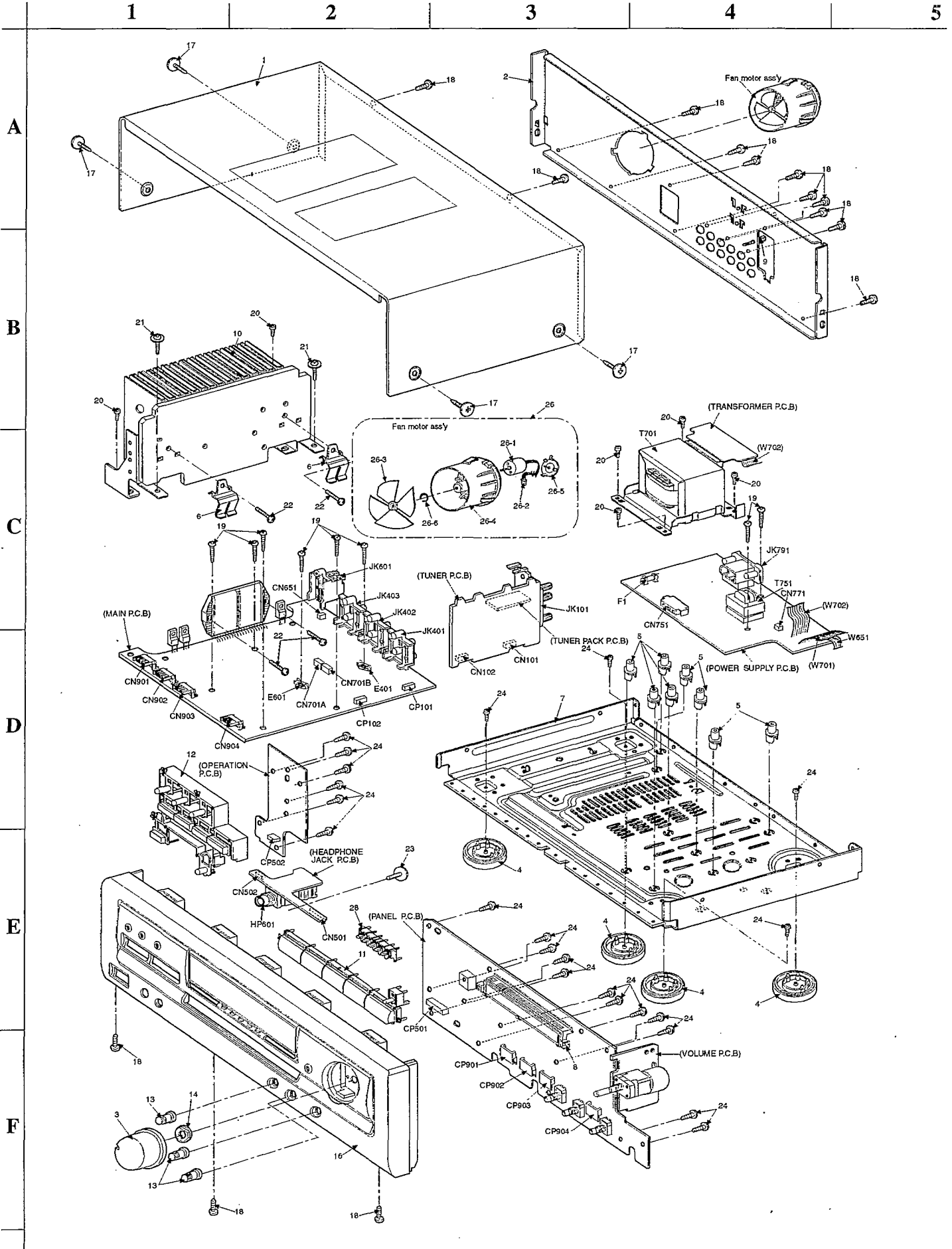


**G** TRANSFORMER P.C.B. (REP2253B-P ..E,EB)




**G** TRANSFORMER P.C.B. (REP2253C-P ..EG)

# Cabinet Parts Location



## ■ Replacement Parts List

**Notes:** \* Important safety notice :

 Components identified by  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.

\* [MAV] in Remarks column indicates parts that are supplied by MAV.

| Ref No. | Part No.    | Part Name & Description    | Remarks   | Ref No. | Part No.     | Part Name & Description | Remarks   | Ref No. | Part No.    | Part Name & Description | Remarks   |
|---------|-------------|----------------------------|-----------|---------|--------------|-------------------------|---|---------|-------------|-------------------------|---|
|         |             | <b>CABINET AND CHASSIS</b> |           | IC102   | LC7218       | IC.PLL                  |   | Q775    | 2SA1309ARTA | TRANSISTOR              |   |
|         |             |                            |           | IC401   | TC9163N      | IC.SELECTOR             |   | Q776    | 2SA1309ARTA | TRANSISTOR              |   |
| 1       | RKM0260B-KJ | TOP CABINET                | [M]       | IC402   | M5218AP      | IC.BUFFER AMP           |   | Q901    | RVD1414YST  | TRANSISTOR              |   |
| 2       | RGR0178F-B1 | REAR PANEL                 | [MAV](E)  | IC451   | AN6358-F     | IC.PHONO EQ AMP         | [M]   | Q902    | 2SA933SSTA  | TRANSISTOR              |   |
| 2       | RGR0178F-C  | REAR PANEL                 | [MAV](EB) | IC501   | BA6218       | IC.MOTOR DRIVER         |   | Q907    | RVD1414YST  | TRANSISTOR              |   |
| 2       | RGR0178F-A  | REAR PANEL                 | [MAV](EG) | IC511   | UPC4570C     | IC.TONE CONTROL         |   | Q909    | 2SC3311ARTA | TRANSISTOR              |   |
| 3       | RGW0243A-K  | VOLUME KNOB                | [MAV]     | IC601   | RSN3305-P    | IC.HIC                  | [MAV]  |         |             |                         |   |
| 4       | RKA0079-A   | FOOT                       | [MAV]     | IC901   | UPD78043A047 | IC.MICRO COMPUTER       | [MAV]   |         |             | <b>DIODES</b>           |   |
| 5       | RKQ0089     | PCB SUPPORT                |           | IC902   | STK311-010   | IC. RDS DECODER         | [M]   |         |             |                         |   |
| 6       | RMC0158-S   | TR FIXTURE                 | [M]       |         |              |                         |   | D101    | MTZ15R1BTA  | DIODE                   |   |
| 7       | RMK0276     | BOTTOM CHASSIS             | [M]       |         |              | <b>TRANSISTORS</b>      |   | D102    | MA165TA     | DIODE                   |   |
| 8       | RMN0372     | FL HOLDER                  | [MAV]     |         |              |                         |   | D401    | MTZ17R5CTA  | DIODE                   |    |
| 9       | SNE2123     | EARTH TERMINAL             |           | Q101    | 2SC2787LTA   | TRANSISTOR              |   | D601    | RVD1SS133TA | DIODE                   |   |
| 10      | RXX0169     | HEAT SINK UNIT             | [MAV]     | Q103    | 2SC2785FETA  | TRANSISTOR              |   | D603    | MA700ATA    | DIODE                   |   |
| 11      | RGU1349-K   | SELECTOR BUTTON            | [MAV]     | Q104    | 2SC2785FETA  | TRANSISTOR              |   | D605    | SB360L6508  | DIODE                   |  |
| 12      | RGU1350-K   | MODE BUTON                 | [MAV]     | Q106    | UN411FTA     | TRANSISTOR              |   | D606    | SB360L6508  | DIODE                   |  |
| 13      | RGW0244-K   | BASS TREBLE KNOB           | [MAV]     | Q107    | 2SC3311ARTA  | TRANSISTOR              |   | D609    | RVD1SS133TA | DIODE                   |   |
| 14      | RHN90001    | M9 NUT                     |           | Q108    | 2SC3311ARTA  | TRANSISTOR              |   | D701    | 1N5402BM21  | DIODE                   |  |
| 16      | RFK6EX100EK | FRONT PANEL ASS'Y          | [MAV]     | Q191    | 2SC3311ARTA  | TRANSISTOR              |   | D702    | 1N5402BM21  | DIODE                   |  |
| 17      | SNE2129-1   | SCREW (CABINET)            |           | Q192    | 2SC3311ARTA  | TRANSISTOR              |   | D703    | 1N5402BM21  | DIODE                   |  |
| 18      | XTBS3+8JFZ1 | SCREW (MAIN PCB)           |           | Q193    | 2SC3311ARTA  | TRANSISTOR              |   | D704    | 1N5402BM21  | DIODE                   |  |
| 19      | XTB3+20JFZ  | SCREW (TRNFM/H SINK)       |           | Q505    | 2SD1915FTA   | TRANSISTOR              |   | D707    | MTZ16R2BTA  | DIODE                   |  |
| 20      | XTB3+8FFZ   | SCREW (REAR PANEL)         |           | Q506    | 2SD1915FTA   | TRANSISTOR              |   | D708    | MTZ16R2BTA  | DIODE                   |  |
| 21      | XTWS3+8T    | SCREW (HEAT SINK)          |           | Q601    | 2SA1309ARTA  | TRANSISTOR              |   | D710    | MTZ124DTA   | DIODE                   |  |
| 22      | XTW3+15T    | SCREW (HEAT SINK)          |           | Q681    | 2SD1915FTA   | TRANSISTOR              |   | D712    | MTZ116CTA   | DIODE                   |  |
| 23      | RHD26016    | SCREW (PANEL)              |           | Q682    | 2SD1915FTA   | TRANSISTOR              |   | D721    | 1N5402BM21  | DIODE                   |  |
| 24      | XTBS26+10J  | SCREW                      |           | Q701    | 2SD2374PQAU  | TRANSISTOR              |        | D722    | 1N5402BM21  | DIODE                   |  |
| 26      | RYQ0173-K   | FAN UNIT                   | [MAV]     | Q703    | 2SC3311ARTA  | TRANSISTOR              |        | D723    | 1N5402BM21  | DIODE                   |  |
| 26-1    | MDN-4RB4MRC | MOTOR                      |           | Q704    | 2SC3311ARTA  | TRANSISTOR              |        | D724    | 1N5402BM21  | DIODE                   |  |
| 26-2    | REX0811     | CONNECTOR UNIT             | [MAV]     | Q705    | 2SC3311ARTA  | TRANSISTOR              |        | D751    | 1SR35200TB  | DIODE                   |  |
| 26-3    | SHE232-1    | 64MM PROPELLER             |           | Q706    | 2SC3940AQSTA | TRANSISTOR              |        | D752    | 1SR35200TB  | DIODE                   |  |
| 26-4    | SHE233-1    | FAN CASE                   |           | Q707    | 2SB1548PQAU  | TRANSISTOR              |        | D753    | 1SR35200TB  | DIODE                   |  |
| 26-5    | SHE234      | FAN CASE COVER             |           | Q709    | 2SB1548PQAU  | TRANSISTOR              |        | D754    | 1SR35200TB  | DIODE                   |  |
| 26-6    | SUS271      | MOTOR SPRING               |           | Q751    | UN421FTA     | TRANSISTOR              |   | D755    | RVD1SS133TA | DIODE                   |  |
| 28      | RGU1352D-K  | DOLBY BUTTON               | [MAV]     | Q752    | 2SC3940AQSTA | TRANSISTOR              |        | D756    | MTZ16R8BTA  | DIODE                   |  |
|         |             |                            |           | Q771    | 2SA1309ARTA  | TRANSISTOR              |   | D771    | RVD1SS133TA | DIODE                   |   |
|         |             | <b>INTEGRATED CIRCUITS</b> |           | Q772    | 2SA1309ARTA  | TRANSISTOR              |   | D772    | MTZ16R8BTA  | DIODE                   |   |
|         |             |                            |           | Q773    | 2SB621ARTA   | TRANSISTOR              |        | D773    | RVD1SS133TA | DIODE                   |   |
| IC101   | LA1832A     | IC,IF/MPX                  |           | Q774    | 2SA1309ARTA  | TRANSISTOR              |   | D901    | 1SS291TA    | DIODE                   |   |

| 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                   |         | CN771   | SJT3213      | CONNECTOR (2 P)         |         | Z751    | ERZV10V511CS | ZNR                     | △       |
| D905    | RVD1SS133TA  | DIODE                   |         | CN901   | RJU003K008M1 | CONNECTOR (8 P)         |         | Z891    | RCDSPS4242N  | REMOTE SENSOR           |         |
| D921    | RVD1SS133TA  | DIODE                   |         | CN902   | RJU003K008M1 | CONNECTOR (8 P)         |         |         |              |                         |         |
| D923    | RVD1SS133TA  | DIODE                   |         | CN903   | RJU003K008M1 | CONNECTOR (8 P)         |         |         |              | OSCILLATORS             |         |
| D924    | MTZJ3R9ATA   | DIODE                   |         | CN904   | RJU003K008M1 | CONNECTOR (8 P)         |         |         |              |                         |         |
| D925    | RVD1SS133TA  | DIODE                   |         | CP101   | RJT057W007-1 | CONNECTOR (7 P)         |         | X101    | RSXZ456KM07M | CERAMIC OSCILLATOR      |         |
| D929    | LN846RPH     | DIODE                   |         | CP102   | RJT057W007-1 | CONNECTOR (7 P)         |         | X102    | RLFDGTD01I   | FM REZONATOR            |         |
|         |              |                         |         | CP501   | RJT100W07    | CONNECTOR (7 P)         | [MAV]   | X103    | SVQ49U722T-S | CRYSTACOSCILLIATOR      |         |
|         |              | VARIABLE RESISTORS      |         | CP502   | RJT100W04    | CONNECTOR (4 P)         | [MAV]   |         |              |                         |         |
|         |              |                         |         | CP901   | RJT003K008M1 | CONNECTOR (8 P)         |         |         |              | DISPLAY TUBE            |         |
| VR501   | EUWMGB026B15 | VR, VOLUME              | [MAV]   | CP902   | RJT003K008M1 | CONNECTOR (8 P)         |         |         |              |                         |         |
| VR502   | EVJ02QF01G15 | VR, BALANCE             |         | CP903   | RJT003K008M1 | CONNECTOR (8 P)         |         | FL901   | RSL0213-F    | FL DISPLAY              | [MAV]   |
| VR511   | EVJYA1F01C15 | VR, BASS                |         | CP904   | RJT003K008M1 | CONNECTOR (8 P)         |         |         |              | EARTH TERMINAL          |         |
| VR512   | EVJYA1F01C15 | VR, TREBLE              |         |         |              |                         |         |         |              |                         |         |
|         |              |                         |         |         |              | COILS, TRANSFORMERS     |         |         |              |                         |         |
|         |              | SWITCHES                |         | L101    | ELESNR68MA   | CHOKE COIL              | (E,EB)  | E401    | SNE1004-2    | EARTH TERMINAL          |         |
| S946    | EVQ21405R    | SW, POWER               |         | L101    | ELESNR10MA   | CHOKE COIL              | (EG)    | E601    | SNE1004-2    | EARTH TERMINAL          |         |
| S947    | EVQ21405R    | SW, PHONO               |         | L103    | ELEXTR47MA9  | CHOKE COIL              |         |         |              | RELAYS                  |         |
| S948    | EVQ21405R    | SW, MUTING              |         | L105    | RLQZB822KT-D | TAPING COIL             |         |         |              |                         |         |
| S950    | EVQ21405R    | SW, FM AUTO/MONO        |         | L106    | RLQZB822KT-D | TAPING COIL             |         | RL601   | RSY0013M-0   | 24V RELAY               |         |
| S951    | EVQ21405R    | SW, BAND                |         | L151    | SLMIB10-1M   | COIL                    |         | RL751   | RSY0019M-0   | 12V TV-5 RELAY          | △       |
| S952    | EVQ21405R    | SW, TUNING (-)          |         | L191    | ELESNR68MA   | CHOKE COIL              | (E,EB)  |         |              |                         |         |
| S953    | EVQ21405R    | SW, TUNING (+)          |         | L191    | ELESNR56MA   | CHOKE COIL              | (EG)    |         |              | FUSES                   |         |
| S954    | EVQ21405R    | SW, MEMORY              |         | L501    | RLQZP1R0KT-Y | AXIAL COIL              |         |         |              |                         |         |
| S956    | EVQ21405R    | SW, PRESET (-)          |         | L502    | RLQZP1R0KT-Y | AXIAL COIL              |         | F1      | XBA2C16TB0   | FUSE                    | △       |
| S957    | EVQ21405R    | SW, PRESET (+)          |         | L601    | RLQYR73M     | CHOKE COIL              |         |         |              |                         |         |
| S960    | EVQ21405R    | SW, TUNER               |         | L602    | RLQYR73M     | CHOKE COIL              |         |         |              | FUSE CLIPS              |         |
| S961    | EVQ21405R    | SW, CD                  |         | L701    | SLQZ650MH49  | ACLIN COIL              | △       |         |              |                         |         |
| S962    | EVQ21405R    | SW, TAPE                |         | L751    | ELESNR101KA  | CHOKE COIL              |         | FC701   | RJR0169T     | FUSE HOLDER             | [M]     |
| S964    | EVQ21405R    | SW, VCR                 |         | L901    | RLQB101KTA-Y | CHOKE COIL              |         | FC702   | RJR0169T     | FUSE HOLDER             | [M]     |
| S970    | EVQ21405R    | SW, SEARCH              |         | L902    | RLQZP101KT-Y | AXIAL COIL              |         |         |              |                         |         |
| S971    | EVQ21405R    | SW, EON                 |         | T701    | RTP1N5B022   | POWER TRANSFORMER       | [MAV] △ |         |              | JACKS                   |         |
| S972    | EVQ21405R    | SW, PTY SEL A           |         | T751    | RTP115E003-V | POWER TRANSFORMER       | △       |         |              |                         |         |
| S973    | EVQ21405R    | SW, PTY SEL V           |         |         |              |                         |         | JK101   | RJH4202      | JK, ANT TERMINAL        |         |
| S974    | EVQ21405R    | SW, DISPLAY MODE        |         |         |              | CERAMIC FILTERS         |         | JK401   | SJF3069N     | JK, PHONO/CD            |         |
| S980    | EVQ21405R    | SW, SPEAKER             |         | CF201   | RLFFETNGD01L | CERAMIC FILTER          |         | JK402   | SJF3069N     | JK, TAPE (MONITOR)      |         |
|         |              |                         |         | CF202   | RLFFETMGD01L | CERAMIC FILTER          |         | JK403   | SJF3069N     | JK, VCR IN/OUT          |         |
|         |              | CONNECTORS              |         | CF901   | RVBCST4R00MT | CERAMIC OSCILLATOR      |         | JK601   | RJR0054      | JK, SP TERMINAL         |         |
| CN101   | RJU057W007   | CONNECTOR (7 P)         |         | CF902   | RSXZ456KM07M | CERAMIC OSCILLATOR      |         | JK791   | SJS9236      | JK, AC INLET            | △       |
| CN102   | RJU057W007   | CONNECTOR (7 P)         |         |         |              |                         |         | HP601   | RJ163TS01    | HEADPHONES JACK         |         |
| CN501   | RJU100W07    | CONNECTOR (7 P)         | [MAV]   |         |              | COMP. COMBINATION       |         |         |              |                         |         |
| CN502   | RJU100W04    | CONNECTOR (4 P)         | [MAV]   | Z101    | RLA6Z005M-T  | AM ANT/OSC              | (E,EB)  |         |              |                         |         |
| CN651   | RJS1A6603    | CONNECTOR (3P)          |         | Z101    | RLA2Z002M-T  | AM ANT. COIL            | (EG)    |         |              |                         |         |
| CN701A  | RJS1A6606    | CONNECTOR (6 P)         |         | Z102    | RL12Z006M-T  | AM IFT                  |         |         |              |                         |         |
| CN701B  | RJS1A6606    | CONNECTOR (6 P)         |         | Z120    | ENV17290G1R  | FM TUNER PACK           |         |         |              |                         |         |
| CN751   | SJS305-1     | CONNECTOR (3 P)         |         |         |              |                         |         |         |              |                         |         |



## Resistors & Capacitors

Notes : \* Important safety notice:

Components identified by  $\Delta$  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 ( $\mu$ 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.
- \* [MAV] in Remarks column indicates parts that are supplied by MAV.

| RefNo. | Part No.         | Values & Remarks | Ref No. | Part No.    | Values & Remarks | Ref No. | Part No.     | Values & Remarks  | Ref No. | Part No.     | Values & Remarks |
|--------|------------------|------------------|---------|-------------|------------------|---------|--------------|-------------------|---------|--------------|------------------|
|        |                  |                  | R143    | ERDS2TJ222T | 2.2K 1/4W        | R423    | ERDS2TJ102T  | 1K 1/4W           | R515    | ERDS2TJ474T  | 470K 1/4W        |
|        | <b>RESISTORS</b> |                  | R144    | ERDS2TJ222T | 2.2K 1/4W        | R424    | ERDS2TJ102T  | 1K 1/4W           | R516    | ERDS2TJ474T  | 470K 1/4W        |
|        |                  |                  | R145    | ERDS2TJ102T | 1K 1/4W (E,EB)   | R425    | ERDS2TJ103T  | 10K 1/4W          | R517    | ERDS2TJ182T  | 1.8K 1/4W        |
| R103   | ERDS2TJ101T      | 100 1/4W         | R145    | ERDS2TJ561T | 560 1/4W (EG)    | R426    | ERDS2TJ103T  | 10K 1/4W          | R518    | ERDS2TJ182T  | 1.8K 1/4W        |
| R104   | ERDS2TJ102T      | 1K 1/4W          | R146    | ERDS2TJ102T | 1K 1/4W (E,EB)   | R427    | ERDS2TJ103T  | 10K 1/4W          | R519    | ERDS2TJ392T  | 3.9K 1/4W        |
| R105   | ERDS2TJ471T      | 470 1/4W         | R146    | ERDS2TJ561T | 560 1/4W (EG)    | R440    | ERDS1FVJ820T | 82 1/2W $\Delta$  | R520    | ERDS2TJ392T  | 3.9K 1/4W        |
| R106   | ERDS2TJ224T      | 220K 1/4W        | R147    | ERDS2TJ474T | 470K 1/4W        | R441    | ERDS2TJ473T  | 47K 1/4W          | R521    | ERDS2TJ223T  | 22K 1/4W         |
| R107   | ERDS2TJ471T      | 470 1/4W         | R148    | ERDS2TJ474T | 470K 1/4W        | R442    | ERDS2TJ473T  | 47K 1/4W          | R522    | ERDS2TJ223T  | 22K 1/4W         |
| R110   | ERDS2TJ102T      | 1K 1/4W          | R149    | ERDS2TJ680T | 68 1/4W          | R443    | ERDS2TJ330T  | 33 1/4W           | R523    | ERDS2TJ392T  | 3.9K 1/4W        |
| R112   | ERDS2TJ104T      | 100K 1/4W        | R171    | ERDS2TJ102T | 1K 1/4W          | R451    | ERDS2TJ224T  | 220K 1/4W         | R524    | ERDS2TJ392T  | 3.9K 1/4W        |
| R113   | ERDS2TJ103T      | 10K 1/4W         | R172    | ERDS2TJ102T | 1K 1/4W          | R452    | ERDS2TJ224T  | 220K 1/4W         | R525    | ERDS2TJ222T  | 2.2K 1/4W        |
| R114   | ERDS2TJ562T      | 5.6K 1/4W        | R173    | ERDS2TJ471T | 470 1/4W         | R453    | ERDS2TJ391T  | 390 1/4W          | R526    | ERDS2TJ222T  | 2.2K 1/4W        |
| R115   | ERDS2TJ561T      | 560 1/4W         | R175    | ERDS2TJ102T | 1K 1/4W          | R454    | ERDS2TJ391T  | 390 1/4W          | R527    | ERDS2TJ122T  | 1.2K 1/4W        |
| R116   | ERDS2TJ102T      | 1K 1/4W          | R176    | ERDS2TJ391T | 390 1/4W         | R455    | ERDS2TJ563T  | 56K 1/4W          | R528    | ERDS2TJ122T  | 1.2K 1/4W        |
| R117   | ERDS2TJ473T      | 47K 1/4W         | R181    | ERDS2TJ332T | 3.3K 1/4W        | R456    | ERDS2TJ563T  | 56K 1/4W          | R529    | ERDS2TJ273T  | 27K 1/4W         |
| R118   | ERDS2TJ562T      | 5.6K 1/4W        | R191    | ERDS2TJ103T | 10K 1/4W         | R457    | ERDS2TJ271T  | 270 1/4W          | R530    | ERDS2TJ273T  | 27K 1/4W         |
| R119   | ERDS2TJ183T      | 18K 1/4W         | R192    | ERDS2TJ122T | 1.2K 1/4W        | R458    | ERDS2TJ271T  | 270 1/4W          | R531    | ERDS2TJ332T  | 3.3K 1/4W        |
| R120   | ERDS2TJ473T      | 47K 1/4W         | R193    | ERDS2TJ182T | 1.8K 1/4W        | R459    | ERDS2TJ680T  | 68 1/4W           | R532    | ERDS2TJ332T  | 3.3K 1/4W        |
| R121   | ERDS2TJ332T      | 3.3K 1/4W        | R194    | ERDS2TJ122T | 1.2K 1/4W        | R460    | ERDS2TJ680T  | 68 1/4W           | R533    | ERDS2TJ332T  | 3.3K 1/4W        |
| R122   | ERDS2TJ272T      | 2.7K 1/4W        | R195    | ERDS2TJ222T | 2.2K 1/4W        | R461    | ERDS2TJ184T  | 180K 1/4W         | R534    | ERDS2TJ332T  | 3.3K 1/4W        |
| R124   | ERDS2TJ271T      | 270 1/4W         | R401    | ERDS2TJ102T | 1K 1/4W          | R462    | ERDS2TJ184T  | 180K 1/4W         | R543    | ERDS2TJ102T  | 1K 1/4W          |
| R125   | ERDS2TJ472T      | 4.7K 1/4W        | R402    | ERDS2TJ102T | 1K 1/4W          | R463    | ERDS2TJ123T  | 12K 1/4W          | R544    | ERDS2TJ102T  | 1K 1/4W          |
| R126   | ERDS2TJ472T      | 4.7K 1/4W        | R405    | ERDS2TJ102T | 1K 1/4W          | R464    | ERDS2TJ123T  | 12K 1/4W          | R545    | ERDS2TJ824T  | 820K 1/4W        |
| R127   | ERDS2TJ103T      | 10K 1/4W         | R406    | ERDS2TJ102T | 1K 1/4W          | R465    | ERDS2TJ563T  | 56K 1/4W          | R546    | ERDS2TJ332T  | 3.3K 1/4W        |
| R128   | ERDS2TJ820T      | 82 1/4W          | R407    | ERDS2TJ102T | 1K 1/4W          | R466    | ERDS2TJ563T  | 56K 1/4W          | R601    | ERDS2TJ221T  | 220 1/4W         |
| R129   | ERDS2TJ473T      | 47K 1/4W         | R408    | ERDS2TJ102T | 1K 1/4W          | R467    | ERDS2TJ102T  | 1K 1/4W           | R602    | ERDS2TJ221T  | 220 1/4W         |
| R130   | ERDS2TJ102T      | 1K 1/4W          | R411    | ERDS2TJ102T | 1K 1/4W          | R468    | ERDS2TJ102T  | 1K 1/4W           | R603    | ERDS2TJ563T  | 56K 1/4W         |
| R131   | ERDS2TJ102T      | 1K 1/4W          | R412    | ERDS2TJ102T | 1K 1/4W          | R469    | ERDS2TJ102T  | 1K 1/4W           | R604    | ERDS2TJ563T  | 56K 1/4W         |
| R132   | ERDS2TJ103T      | 10K 1/4W         | R413    | ERDS2TJ102T | 1K 1/4W          | R470    | ERDS2TJ102T  | 1K 1/4W           | R605    | ERDS2TJ182T  | 1.8K 1/4W        |
| R133   | ERDS2TJ102T      | 1K 1/4W          | R414    | ERDS2TJ102T | 1K 1/4W          | R501    | ERDS2TJ222T  | 2.2K 1/4W         | R606    | ERDS2TJ182T  | 1.8K 1/4W        |
| R134   | ERDS2TJ102T      | 1K 1/4W          | R415    | ERDS2TJ102T | 1K 1/4W          | R502    | ERDS2TJ222T  | 2.2K 1/4W         | R607    | ERDS2TJ563T  | 56K 1/4W         |
| R135   | ERDS2TJ102T      | 1K 1/4W          | R416    | ERDS2TJ102T | 1K 1/4W          | R503    | ERDS2TJ103T  | 10K 1/4W          | R608    | ERDS2TJ563T  | 56K 1/4W         |
| R136   | ERDS2TJ102T      | 1K 1/4W          | R417    | ERDS2TJ473T | 47K 1/4W         | R504    | ERDS2TJ103T  | 10K 1/4W          | R609    | ERDS2TJ100T  | 10 1/4W          |
| R137   | ERDS2TJ102T      | 1K 1/4W          | R418    | ERDS2TJ473T | 47K 1/4W         | R508    | ERDS1FVJ2R2T | 2.2 1/2W $\Delta$ | R610    | ERDS2TJ100T  | 10 1/4W          |
| R139   | ERDS2TJ272T      | 2.7K 1/4W        | R419    | ERDS2TJ104T | 100K 1/4W        | R511    | ERDS2TJ471T  | 470 1/4W          | R611    | ERDS1FVJ100T | 10 1/2W $\Delta$ |
| R140   | ERDS2TJ272T      | 2.7K 1/4W        | R420    | ERDS2TJ104T | 100K 1/4W        | R512    | ERDS2TJ471T  | 470 1/4W          | R612    | ERDS1FVJ100T | 10 1/2W $\Delta$ |
| R141   | ERDS2TJ102T      | 1K 1/4W          | R421    | ERDS2TJ104T | 100K 1/4W        | R513    | ERDS2TJ474T  | 470K 1/4W         | R613    | ERDS2TJ102T  | 1K 1/4W          |
| R142   | ERDS2TJ102T      | 1K 1/4W          | R422    | ERDS2TJ104T | 100K 1/4W        | R514    | ERDS2TJ474T  | 470K 1/4W         | R614    | ERDS2TJ102T  | 1K 1/4W          |

| Ref.No. | Part.No.     | Values & Remarks | Ref.No. | Part.No.     | Values & Remarks | Ref.No. | Part.No.     | Values & Remarks | Ref.No. | Part.No.     | Values & Remarks |
|---------|--------------|------------------|---------|--------------|------------------|---------|--------------|------------------|---------|--------------|------------------|
| R615    | ERDS2TJ184T  | 180K 1/4W        | R707    | ERDS2TJ332T  | 3.3K 1/4W        | R948    | ERDS2TJ103T  | 10K 1/4W         | C124    | ECBT1H102KB5 | 1000P 50V        |
| R616    | ERDS2TJ154T  | 150K 1/4W        | R708    | ERDS2TJ102T  | 1K 1/4W          | R949    | ERDS2TJ103T  | 10K 1/4W         | C125    | ECBT1H150JC5 | 15P 50V          |
| R619    | ERDS2TJ684T  | 680K 1/4W        | R711    | ERD25FVJ221T | 220 1/4W         | R950    | ERDS2TJ102T  | 1K 1/4W          | C126    | ECBT1H104ZF5 | 0.1 50V          |
| R620    | ERDS2TJ473T  | 47K 1/4W         | R714    | ERDS2TJ472T  | 4.7K 1/4W        | R951    | ERDS2TJ122T  | 1.2K 1/4W        | C127    | ECEA1CKA220B | 22 16V           |
| R621    | ERD25FVJ180T | 18 1/4W          | R715    | ERDS2TJ1R5T  | 1.5 1/4W         | R952    | ERDS2TJ152T  | 1.5K 1/4W        | C128    | ECBT1C103NS5 | 0.01 16V         |
| R622    | ERD25FVJ180T | 18 1/4W          | R716    | ERDS2TJ1R5T  | 1.5 1/4W         | R953    | ERDS2TJ182T  | 1.8K 1/4W        | C129    | ECEA0JKA101B | 100 6.3V         |
| R623    | ERDS2TJ684T  | 680K 1/4W        | R717    | ERDS2TJ752T  | 7.5K 1/4W        | R954    | ERDS2TJ222T  | 2.2K 1/4W        | C130    | ECEA0JKA101B | 100 6.3V         |
| R624    | ERDS2TJ154T  | 150K 1/4W        | R718    | ERDS2TJ682T  | 6.8K 1/4W        | R955    | ERDS2TJ332T  | 3.3K 1/4W        | C131    | ECBT1C103NS5 | 0.01 16V         |
| R625    | ERD2FCVJ470T | 47 1/4W          | R719    | ERD2FCVJ6R8T | 6.8 1/4W         | R956    | ERDS2TJ472T  | 4.7K 1/4W        | C132    | ECBT1H102KB5 | 1000P 50V        |
| R626    | ERDS2TJ473T  | 47K 1/4W         | R721    | ERDS2TJ182T  | 1.8K 1/4W        | R957    | ERDS2TJ682T  | 6.8K 1/4W        | C133    | ECBT1H150JC5 | 15P 50V          |
| R627    | ERG1SJ101E   | 100 1W $\Delta$  | R723    | ERD2FCVJ4R7T | 4.7 1/4W         | R960    | ERDS2TJ102T  | 1K 1/4W          | C134    | ECBT1H180JC5 | 18P 50V          |
| R628    | ERG1SJ101E   | 100 1W $\Delta$  | R724    | ERDS2TJ122T  | 1.2K 1/4W        | R961    | ERDS2TJ122T  | 1.2K 1/4W        | C135    | ECBT1C103MS5 | 0.01 16V         |
| R629    | ERG1SJ101E   | 100 1W $\Delta$  | R727    | ERD25FVJ180T | 18 1/4W          | R962    | ERDS2TJ152T  | 1.5K 1/4W        | C136    | ECBT1C103MS5 | 0.01 16V         |
| R630    | ERG1SJ101E   | 100 1W $\Delta$  | R728    | ERD2FCVJ4R7T | 4.7 1/4W         | R963    | ERDS2TJ182T  | 1.8K 1/4W        | C137    | ECBT1H561KB5 | 560P 50V         |
| R631    | ERDS2TJ223T  | 22K 1/4W         | R729    | ERDS2TJ152T  | 1.5K 1/4W        | R964    | ERDS2TJ222T  | 2.2K 1/4W        | C138    | ECBT1H561KB5 | 560P 50V         |
| R633    | ERDS2TJ103T  | 10K 1/4W         | R754    | ERDS2TJ102T  | 1K 1/4W          | R970    | ERDS2TJ102T  | 1K 1/4W          | C139    | ECQB1H682JF3 | 6800P 50V        |
| R635    | ERDS2TJ102T  | 1K 1/4W          | R772    | ERDS2TJ104T  | 100K 1/4W        | R971    | ERDS2TJ122T  | 1.2K 1/4W        | C140    | ECQB1H682JF3 | 6800P 50V        |
| R637    | ERDS2TJ472T  | 4.7K 1/4W        | R773    | ERDS2TJ103T  | 10K 1/4W         | R972    | ERDS2TJ152T  | 1.5K 1/4W        | C141    | ECEA1HKA010B | 1 50V            |
| R639    | ERDS2TJ474T  | 470K 1/4W        | R774    | ERDS2TJ223T  | 22K 1/4W         | R973    | ERDS2TJ182T  | 1.8K 1/4W        | C142    | ECEA1HKA010B | 1 50V            |
| R640    | ERDS2TJ474T  | 470K 1/4W        | R775    | ERDS2TJ332T  | 3.3K 1/4W        | R974    | ERDS2TJ222T  | 2.2K 1/4W        | C143    | ECEA1HKA010B | 1 50V            |
| R641    | ERDS2TJ221T  | 220 1/4W         | R777    | ERDS2TJ220T  | 22 1/4W          | R980    | ERDS2TJ102T  | 1K 1/4W          | C144    | ECEA1HKA010B | 1 50V            |
| R642    | ERDS2TJ221T  | 220 1/4W         | R778    | ERDS2TJ222T  | 2.2K 1/4W        |         |              |                  | C145    | ECBT1H220JC5 | 22P 50V          |
| R643    | ERDS2TJ124T  | 120K 1/4W        | R779    | ERDS2TJ103T  | 10K 1/4W         |         |              |                  | C146    | ECBT1H331KB5 | 330P 50V         |
| R644    | ERDS2TJ124T  | 120K 1/4W        | R780    | ERDS2TJ473T  | 47K 1/4W         |         |              |                  | C147    | ECBT1H102KB5 | 1000P 50V        |
| R645    | ERDS2TJ473T  | 47K 1/4W         | R781    | ERDS2TJ473T  | 47K 1/4W         | C1      | ECKR1H473ZF5 | 0.047 50V        | C148    | ECBT1C103NS5 | 0.01 16V         |
| R646    | ERDS2TJ274T  | 270K 1/4W        | R782    | ERDS2TJ153T  | 15K 1/4W         | C101    | ECBT1C103NS5 | 0.01 16V         | C149    | ECBT1C103NS5 | 0.01 16V         |
| R671    | ERDS2TJ223T  | 22K 1/4W         | R783    | ERDS2TJ103T  | 10K 1/4W         | C103    | ECBT1C103NS5 | 0.01 16V         | C150    | ECBT1H104ZF5 | 0.1 50V          |
| R672    | ERDS2TJ223T  | 22K 1/4W         | R784    | ERDS2TJ335T  | 3.3M 1/4W        | C104    | ECBT1H102KB5 | 1000P 50V        | C172    | ECBT1H331KB5 | 330P 50V         |
| R675    | ERDS2TJ682T  | 6.8K 1/4W        | R901    | ERDS2TJ102T  | 1K 1/4W          | C105    | ECBT1H470J5  | 47P 50V          | C173    | ECEA1CKA220B | 22 16V           |
| R681    | ERDS2TJ270T  | 27 1/4W          | R906    | ERDS2TJ104T  | 100K 1/4W        | C106    | ECBT1C103NS5 | 0.01 16V         | C174    | ECEA1CKA101B | 100 16V          |
| R682    | ERDS2TJ270T  | 27 1/4W          | R907    | ERDS2TJ104T  | 100K 1/4W        | C107    | ECBT1H473ZF5 | 0.047 50V        | C175    | ECBT1C103NS5 | 0.01 16V         |
| R683    | ERDS2TJ270T  | 27 1/4W          | R908    | ERDS2TJ104T  | 100K 1/4W        | C108    | ECBT1H100JC5 | 10P 50V(E,EB)    | C176    | ECBT1C103NS5 | 0.01 16V         |
| R684    | ERDS2TJ270T  | 27 1/4W          | R909    | ERDS2TJ104T  | 100K 1/4W        | C108    | ECBT1H8R2KC5 | 8.2P 50V (EG)    | C181    | ECBT1H471KB5 | 470P 50V         |
| R685    | ERDS2TJ270T  | 27 1/4W          | R910    | ERDS2TJ102T  | 1K 1/4W          | C109    | ECBT1C103NS5 | 0.01 16V         | C196    | ECBT1H102KB5 | 1000P 50V        |
| R686    | ERDS2TJ270T  | 27 1/4W          | R911    | ERDS2TJ104T  | 100K 1/4W        | C110    | ECBT1C103NS5 | 0.01 16V         | C401    | ECEA1VKA4R7B | 4.7 10V          |
| R687    | ERDS2TJ270T  | 27 1/4W          | R912    | ERDS2TJ103T  | 10K 1/4W         | C111    | ECEA1EKA4R7B | 4.7 25V          | C402    | ECBT1E103ZF5 | 0.01 25V         |
| R688    | ERDS2TJ270T  | 27 1/4W          | R914    | ERDS2TJ274T  | 270K 1/4W        | C112    | ECBT1C103NS5 | 0.01 16V         | C403    | ECBT1E103ZF5 | 0.01 25V         |
| R689    | ERDS2TJ270T  | 27 1/4W          | R917    | ERDS2TJ103T  | 10K 1/4W         | C113    | ECBT1H102KB5 | 1000P 50V        | C404    | ECEA1VKA4R7B | 4.7 10V          |
| R690    | ERDS2TJ223T  | 22K 1/4W         | R920    | ERDS2TJ271T  | 270 1/4W         | C114    | ECEA1HKA3R3B | 3.3 50V          | C405    | ECBT1H101KB5 | 100P 50V         |
| R690    | ERDS2TJ270T  | 27 1/4W          | R921    | ERDS2TJ121T  | 120 1/4W         | C115    | ECEA1EKA4R7B | 4.7 25V          | C406    | ECBT1H102KB5 | 1000P 50V        |
| R691    | ERDS2TJ270T  | 27 1/4W          | R922    | ERDS2TJ472T  | 4.7K 1/4W        | C116    | ECBT1C822MS5 | 8200P 16V        | C409    | ECEA1CU220B  | 22 16V           |
| R692    | ERDS2TJ270T  | 27 1/4W          | R924    | ERDS2TJ333T  | 33K 1/4W         | C117    | ECQB1H471JF3 | 470P 50V         | C410    | ECEA1CU220B  | 22 16V           |
| R693    | ERDS2TJ270T  | 27 1/4W          | R927    | ERDS2TJ181T  | 180 1/4W         | C118    | ECQB1H103JF3 | 0.01 50V         | C411    | ECBT1H101KB5 | 100P 50V         |
| R694    | ERDS2TJ270T  | 27 1/4W          | R929    | ERDS2TJ101T  | 100 1/4W         | C119    | ECQB1H103JF3 | 0.01 50V         | C412    | ECBT1H101KB5 | 100P 50V         |
| R695    | ERDS2TJ102T  | 1K 1/4W          | R930    | ERDS2TJ101T  | 100 1/4W         | C120    | ECEA1HKA010B | 1 50V            | C413    | ECEA1CU100B  | 10 16V           |
| R696    | ERDS2TJ102T  | 1K 1/4W          | R941    | ERDS2TJ472T  | 4.7K 1/4W        | C121    | ECEA1HKA010B | 1 50V            | C414    | ECEA1CU100B  | 10 16V           |
| R699    | ERDS2TJ332T  | 3.3K 1/4W        | R946    | ERDS2TJ103T  | 10K 1/4W         | C122    | ECEA1HKA2R2B | 2.2 50V          | C415    | ECBT1E103ZF5 | 0.01 25V         |
| R705    | ERD2FCVJ4R7T | 4.7 1/4W         | R947    | ERDS2TJ103T  | 10K 1/4W         | C123    | ECEA1HKA010B | 1 50V            | C416    | ECBT1E103ZF5 | 0.01 25V         |

| RefNo. | PartNo.      | Values & Remarks | RefNo. | PartNo.               | Values & Remarks | RefNo. | PartNo.               | Values & Remarks  | RefNo. | PartNo.      | Values & Remarks |
|--------|--------------|------------------|--------|-----------------------|------------------|--------|-----------------------|-------------------|--------|--------------|------------------|
| C417   | ECBT1H101KB5 | 100P 50V         | C524   | ECFR1E123KR           | 0.012 25V        | C708   | ECKR1H103ZF5          | 0.01 50V          | C938   | ECBT1H101KB5 | 100P 50V         |
| C418   | ECBT1H101KB5 | 100P 50V         | C525   | ECQV1H683JZ3          | 0.068 50V        | C709   | ECEA1CU330B           | 33 16V            | C944   | ECBT1H101KB5 | 100P 50V         |
| C419   | ECBT1H331KB5 | 330P 50V         | C526   | ECQV1H683JZ3          | 0.068 50V        | C710   | ECBT1E103ZF5          | 0.01 25V          |        |              |                  |
| C420   | ECBT1H331KB5 | 330P 50V         | C527   | ECBT1C562KR5          | 5600P 16V        | C711   | ECKR1H103ZF5          | 0.01 50V          |        |              |                  |
| C421   | ECBT1H331KB5 | 330P 50V         | C528   | ECBT1C562KR5          | 5600P 16V        | C712   | ECEA1HU470B           | 47 50V            |        |              |                  |
| C422   | ECBT1H331KB5 | 330P 50V         | C529   | ECQB1H273JF3          | 0.027 50V        | C713   | ECKR1H103ZF5          | 0.01 50V          |        |              |                  |
| C425   | ECBT1H101KB5 | 100P 50V         | C530   | ECQB1H273JF3          | 0.027 50V        | C716   | ECEA2AU100B           | 10 100V           |        |              |                  |
| C426   | ECBT1H101KB5 | 100P 50V         | C531   | ECBT1E103ZF5          | 0.01 25V         | C720   | ECEA1EU220B           | 22 25V            |        |              |                  |
| C427   | ECBT1H221KB5 | 220P 50V         | C532   | ECBT1E103ZF5          | 0.01 25V         | C722   | ECQE2104KF3           | 0.1 250V          |        |              |                  |
| C428   | ECBT1H221KB5 | 220P 50V         | C533   | ECEA1CKA100B          | 10 16V           | C751   | ECKWRS102MBC $\Delta$ | 0.001 400VAC[MAV] |        |              |                  |
| C431   | ECEA1CU100B  | 10 16V           | C534   | ECEA1CKA100B          | 10 16V           | C752   | ECKR1H103ZF5          | 0.01 50V          |        |              |                  |
| C432   | ECEA1CU100B  | 10 16V           | C536   | ECBT1E103ZF5          | 0.01 25V         | C753   | ECA1EM102B            | 1000 25V $\Delta$ |        |              |                  |
| C440   | ECBT1E103ZF5 | 0.01 25V         | C601   | ECEA1HN2R2SB          | 2.2 50V          | C756   | ECBT1E103ZF5          | 0.01 25V          |        |              |                  |
| C451   | ECEA1VKA4R7B | 4.7 10V          | C602   | ECEA1HN2R2SB          | 2.2 50V          | C757   | ECEA1CU470B           | 47 16V            |        |              |                  |
| C452   | ECEA1VKA4R7B | 4.7 10V          | C603   | ECBT1H561KB5          | 560P 50V         | C758   | ECEA1AU101B           | 100 10V           |        |              |                  |
| C453   | ECBT1H100JC5 | 10P 50V          | C604   | ECBT1H561KB5          | 560P 50V         | C759   | ECEA1EU220B           | 22 25V            |        |              |                  |
| C454   | ECBT1H100JC5 | 10P 50V          | C605   | ECA1JM330B            | 33 6.3V          | C771   | ECEA1HU2R2B           | 2.2 50V           |        |              |                  |
| C455   | ECBT1H102KB5 | 1000P 50V        | C606   | ECA1JM330B            | 33 6.3V          | C772   | ECEA1CU100B           | 10 16V            |        |              |                  |
| C456   | ECBT1H102KB5 | 1000P 50V        | C607   | ECRC1H100K5           | 10P 50V          | C773   | ECBT1E223ZF5          | 0.022 25V         |        |              |                  |
| C457   | ECEA1AU330B  | 33 10V           | C608   | ECRC1H100K5           | 10P 50V          | C774   | ECEA0JU221B           | 220 6.3V          |        |              |                  |
| C458   | ECEA1AU330B  | 33 10V           | C609   | ECBT1H151KB5          | 150P 50V         | C901   | ECEA0JU102B           | 1000 6.3V         |        |              |                  |
| C459   | ECFR1E223KR  | 0.022 25V        | C610   | ECBT1H151KB5          | 150P 50V         | C902   | ECBT1E223ZF5          | 0.022 25V         |        |              |                  |
| C460   | ECFR1E223KR  | 0.022 25V        | C611   | ECQV1H473JZ3          | 0.047 50V        | C903   | ECBT1E103ZF5          | 0.01 25V          |        |              |                  |
| C461   | ECFR1E682KR  | 6800P 25V        | C612   | ECQV1H473JZ3          | 0.047 50V        | C904   | ECEA0JU102B           | 1000 6.3V         |        |              |                  |
| C462   | ECFR1E682KR  | 6800P 25V        | C613   | ECBT1H681KB5          | 680P 50V         | C906   | ECEA0JKA101B          | 100 6.3V          |        |              |                  |
| C463   | ECEA1VKA4R7B | 4.7 10V          | C614   | ECBT1H681KB5          | 680P 50V         | C908   | ECBT1E103ZF5          | 0.01 25V          |        |              |                  |
| C464   | ECEA1VKA4R7B | 4.7 10V          | C615   | ECEA2AN2R2SB          | 2.2 100V         | C909   | ECEA1HKA220B          | 22 50V            |        |              |                  |
| C465   | ECBT1E103ZF5 | 0.01 25V         | C616   | ECEA2AU100B           | 10 100V          | C910   | ECEA1HKA220B          | 22 50V            |        |              |                  |
| C466   | ECBT1E103ZF5 | 0.01 25V         | C617   | ECEA1HU470B           | 47 50V           | C911   | ECEA1HKA220B          | 22 50V            |        |              |                  |
| C469   | ECBT1H181KB5 | 180P 50V         | C618   | ECEA2AU100B           | 10 100V          | C912   | ECEA1HKA220B          | 22 50V            |        |              |                  |
| C470   | ECBT1H181KB5 | 180P 50V         | C621   | ECEA2AU100B           | 10 100V          | C913   | ECEA1VKA100B          | 10 10V            |        |              |                  |
| C503   | ECEA0JKA101B | 100 6.3V         | C623   | ECKR1H223ZF5          | 0.022 50V        | C914   | ECEA1VKA100B          | 10 10V            |        |              |                  |
| C504   | ECEA0JKA101B | 100 6.3V         | C624   | ECKR1H223ZF5          | 0.022 50V        | C916   | ECEA1HKA010B          | 1 50V             |        |              |                  |
| C505   | ECFR1C104MR  | 0.1 16V          | C625   | ECEA1HN100SB          | 10 50V           | C917   | ECEA1HKAR47B          | 0.47 50V          |        |              |                  |
| C506   | ECFR1C104MR  | 0.1 16V          | C626   | ECEA1HN100SB          | 10 50V           | C918   | ECEA0JKA221B          | 220 6.3V          |        |              |                  |
| C511   | ECEA1HKA3R3B | 3.3 50V          | C627   | ECKR2H101KB5          | 100P 500V        | C920   | ECEA1HKA010B          | 1 50V             |        |              |                  |
| C512   | ECEA1HKA3R3B | 3.3 50V          | C628   | ECBT1H101KB5          | 100P 50V         | C921   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C513   | ECBT1H150J5  | 15P 50V          | C629   | ECBT1E223ZF5          | 0.022 25V        | C922   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C514   | ECBT1H150J5  | 15P 50V          | C683   | ECBT1C332KR5          | 3300P 16V        | C923   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C515   | ECBT1H221KB5 | 220P 50V         | C684   | ECBT1C332KR5          | 3300P 16V        | C924   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C516   | ECBT1H221KB5 | 220P 50V         | C685   | ECBT1E103ZF5          | 0.01 25V         | C925   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C517   | ECBT1H330J5  | 33P 50V          | C701   | ECBT1E103ZF5          | 0.01 25V         | C926   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C518   | ECBT1H330J5  | 33P 50V          | C702   | ECQE2104KF3           | 0.1 250V         | C927   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C519   | ECEA1VKA4R7B | 4.7 10V          | C703   | ECOS1JP472BB $\Delta$ | 4700 63V[MAV]    | C928   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C520   | ECEA1VKA4R7B | 4.7 10V          | C704   | ECOS1JP472BB $\Delta$ | 4700 63V[MAV]    | C929   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C521   | ECEA1VKA4R7B | 4.7 10V          | C705   | ECEA1HM332EV $\Delta$ | 3300 50V [M]     | C930   | ECBT1H331KB5          | 330P 50V          |        |              |                  |
| C522   | ECEA1VKA4R7B | 4.7 10V          | C706   | ECEA1HM332EV $\Delta$ | 3300 50V [M]     | C931   | ECBT1H101KB5          | 100P 50V          |        |              |                  |
| C523   | ECFR1E123KR  | 0.012 25V        | C707   | ECEA1VU101B           | 100 10V          | C934   | ECBT1H101KB5          | 100P 50V          |        |              |                  |

1160

# ■ Packaging

**Notes:** \* Important safety notice :

- Components identified by  $\Delta$  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**.
- \* [MAV] in Remarks column indicates parts that are supplied by **MAV**.
- \* Remote Control Unit : Supply period for three years from terminal of production.
- \* The "(SF)" mark denotes the standard part.
- \* [VRD] indicates in Remarks column parts that are supplied by **Video Recorder Division**.

| Ref No. | Part No. | Part Name & Description  | Remarks | Ref No. | Part No.     | Part Name & Description      | Remarks | Ref No. | Part No.     | Part Name & Description          | Remarks |
|---------|----------|--------------------------|---------|---------|--------------|------------------------------|---------|---------|--------------|----------------------------------|---------|
|         |          | <b>PACKING MATERIALS</b> |         |         |              | <b>ACCESSORIES</b>           |         | A3      | VJA0733      | AC-CORD [VRD] (SF) (EB) $\Delta$ |         |
| P1      | SPSD152  | ACCESSORY BOX            |         | A1      | EUR642175    | REMOTE CONTROL [MAV]         |         | A4      | RSA0007      | FM ANT                           |         |
| P2      | RPG2988  | PACKING CASE             | [MAV]   | A1-1    | UR64EC1371S4 | BATTY COVER (R C) [MAV]      |         | A5      | RFKSEX100EK  | INSTR MNL ASS'Y [MAV] (E)        |         |
| P3      | RPN0865  | POLYFOAM                 | [M]     | A2      | RSA0010      | AM LOOP ANT                  |         | A5      | RFKSEX100EBK | INSTR MNL ASS'Y [MAV] (EB)       |         |
| P4      | RPFX0005 | MIRAMAT SHEET            | [M]     | A3      | RJA0019-2K   | AC CORD (SF) (E,EG) $\Delta$ |         | A5      | RFKSEX100EGK | INSTR MNL ASS'Y [MAV] (EG)       |         |
|         |          |                          |         |         |              |                              |         | A6      | SJP9009      | ANT ADAPTER (EB) $\Delta$        |         |

P1 (SPSD152) : ACCESSORY BOX

|                          |                         |
|--------------------------|-------------------------|
| A1 (EUR642175)           | : REMOTE CONTROL UNIT   |
| A2 (RSA0010)             | : AM LOOP ANT           |
| A3 (RJA0019-2A ... E,EG) | : AC CORD               |
| A3 (VJA00733 ... EB)     | : AC CORD               |
| A4 (RSA0007)             | : FM ANT                |
| A5 (RFKSEX100EK ... E)   | : INSTRUCTION MNL ASS'Y |
| A5 (RFKSEX100EBK ... EB) | : INSTRUCTION MNL ASS'Y |
| A6 (RFKSEX100EGK ... EG) | : INSTRUCTION MNL ASS'Y |
| A6 (SJP9009 ... EB)      | : ANTENNA ADAPTER       |

P3 (RPN0865) — { \*P3 (A)  
\*P3 (B)  
\*P3 (C)  
\*P3 (D)

