# TAE-8450

*USA Model*
*AEP Model*

# STEREO PREAMPLIFIER

## SPECIFICATIONS

### Peak Program Meter (at PEAK mode)

**Frequency response:** 30 Hz ~ 30,000 Hz $^{+0}_{-3}$ dB

**Response range:** −50 dB ~ +5 dB (0 dB = 1 V rms), With the METER SENS switch pulled . . . −30 dB ~ +25 dB

**Response time:** 1 millisecond at PEAK mode

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**Power requirements:** 120 V ac, 50/60 Hz (USA Model)
100, 120, 220, 240 V ac, 50/60 Hz (AEP Model)

**Power consumption:** 20 W (USA Model)
22 W (AEP Model)

**Ac outlets:** 2 switched 400 watts, 1 unswitched 400 watts

**Dimensions:** 440 (w) x 170 (h) x 340 (d) mm
17⅜ (w) x 6¾ (h) x 13⅜ (d) inches

**Weight:** 11.8 kg (26 lb), net
14.2 kg (31 lb 5 oz), in shipping carton

**Harmonic distortion:** Less than 0.03 % at rated output, 1 kHz

**IM distortion:** (60 Hz : 7 kHz = 4 : 1) Less than 0.05 % at rated output

**Frequency response:**
PHONO 1, 2 RIAA equalization curve ±0.2 dB
MIC 20 Hz ~ 20,000 Hz $^{+0}_{-3}$ dB
TUNER, AUX1, 2, 3, TAPE 1, 2, EXT ADPT 10 Hz ~ 100,000 Hz $^{+0}_{-1}$ dB

**Tone controls:** (11 steps, each 2 dB)
BASS ± 10 dB at 50 Hz (TURNOVER FREQuency 250 Hz)
± 10 dB at 100 Hz (TURNOVER FREQuency 500 Hz)
TREBLE ± 10 dB at 10 kHz (TURNOVER FREQuency 2.5 kHz)
± 10 dB at 20 kHz (TURNOVER FREQuency 5 kHz)

**Filters:** LOW 12 dB/octave below 10 Hz or 40 Hz
HIGH 12 dB/octave above 9 kHz or 20 kHz

**Presence control:** + 3.5 dB at 1 kHz

**Residual noise:** Less than 70 μV (with VOLUME set fully counterclockwise, TONE to mechanical-mid position, FILTERs to OFF, PRESENCE to OFF)

SONY®

SERVICE MANUAL

— Continued from page 1 —

**Inputs:**

| | Sensitivity* | Impedance | Maximum Input Capability (THD 0.1 %) | S/N (weighting network, input level) |
|---|---|---|---|---|
| PHONO 1 | 1.5 mV | 50 kΩ | 140 mV | 70 dB |
| PHONO 2 | 4.5 mV | 50 kΩ/100 kΩ | 400 mV | (A, 1.5 mV) |
| (HEAD AMP) | 0.16 mV | 10 Ω, 30 Ω, 100 Ω, 1 kΩ | 13 mV | 60 dB (A, 0.16 mV) |
| MIC | 0.16 mV | 50 kΩ | 1.2 V | 50 dB (B, 0.16 mV) |
| TUNER | 150 mV | 50 kΩ | —— | 90 dB (A, 150 mV) |
| AUX 1, 2, 3 | | | | |
| TAPE 1, 2 | | | | |
| EXT ADPT | | | | |

* The sensitivities of TUNER, AUX 1, AUX 2, TAPE 1, TAPE 2 and MIC are adjustable.

**Outputs:**

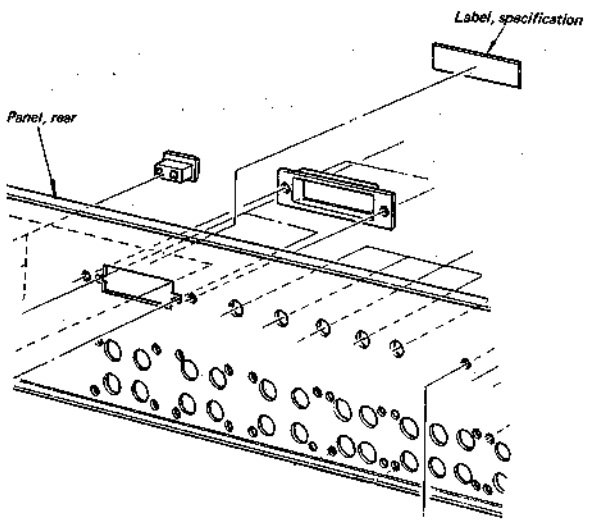
| | Output Level | Impedance |
|---|---|---|
| REC OUT 1, 2 | 150 mV (max. 14 V) | 1 kΩ |
| HEADPHONE | 0.5 V (8 Ω headphone) 6.0 V (10 kΩ headphone) | 100 Ω |
| OUTPUT 1, 2 | 1 V (max. 14 V) | 1 kΩ |
| EXT ADPT | 150 mV | 10 kΩ |

**Voltage amplification:** (at 1 kHz)

| OUTPUTS / INPUTS | REC OUT 1, 2 | HEADPHONE | EXT ADPT (OUTPUT) | OUTPUT 1, 2 |
|---|---|---|---|---|
| PHONO 1 (1.5 mV) | 40 dB | 51 dB | 40 dB | 58 dB |
| PHONO 2 (1.5 mV) | | | | |
| HEAD AMP | 60 dB | 71 dB | 60 dB | 78 dB |
| MIC | 58 dB | 69 dB | 58 dB | 76 dB |
| TUNER | 0 dB | 11 dB | 0 dB | 18 dB |
| AUX 1, 2, 3 | | | | |
| TAPE 1, 2 | | | | |
| EXT ADPT (INPUT) | | | —— | |

## IDENTIFICATION OF SET

Identify TAE-8450 model by checking the specification label shown below.




**SPECIFICATION LABEL**

**(USA Model)**

SONY®

STEREO PREAMPLIFIER

MODEL NO. TAE-8450

AC 120 V 60 Hz 20 W

SERIAL NO.

4-836-102-01

MADE IN JAPAN

**(AEP Model)**

SONY®

STEREO PREAMPLIFIER

MODEL NO. TAE-8450

AC 100, 120, 220, 240 V 50/60 Hz 22 W

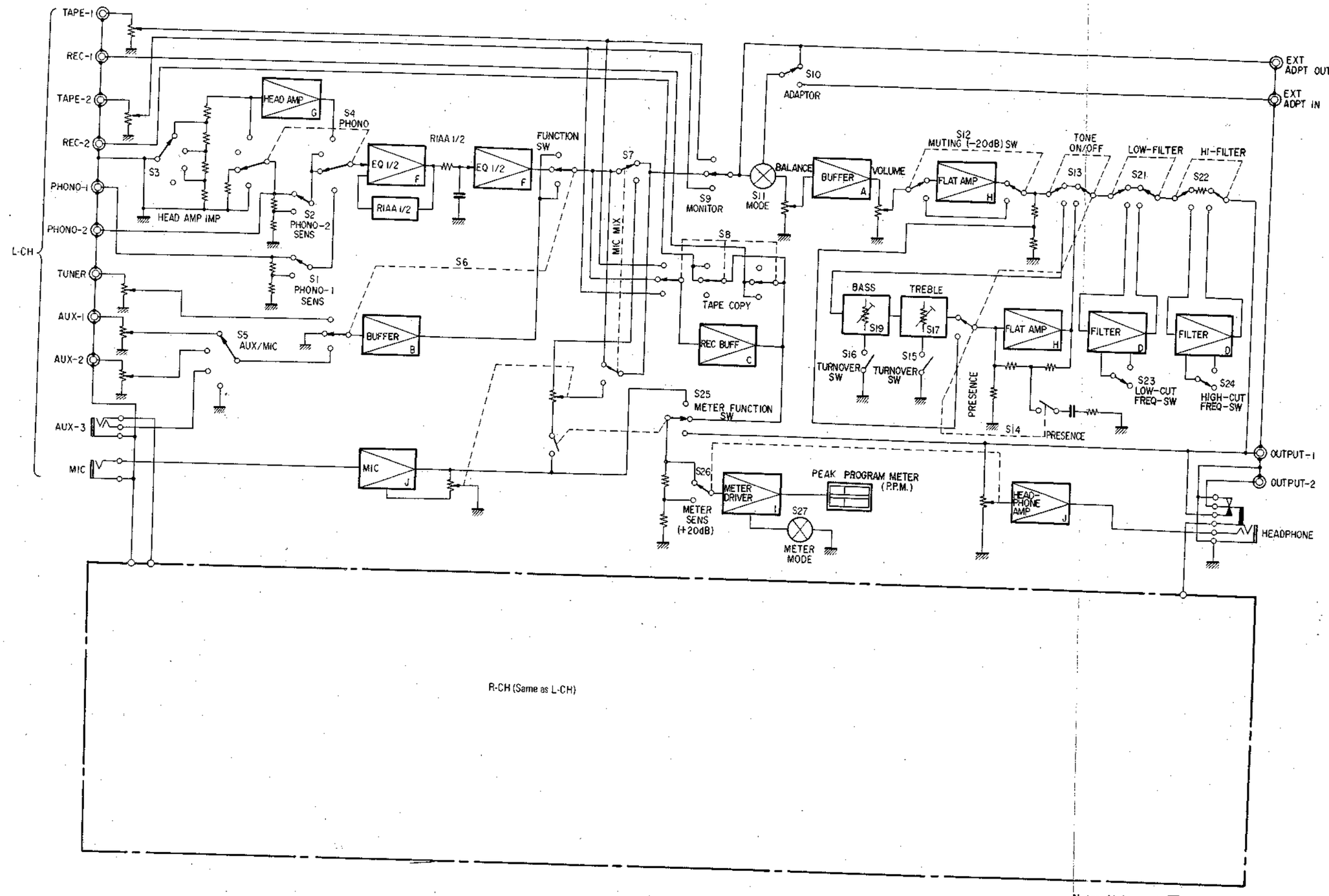
SERIAL NO.

4-836-151-01

MADE IN JAPAN

# SECTION 1
# BLOCK DIAGRAM

## BLOCK DIAGRAM




**Note:** Alphabets in ▭ indicate circuit board.

# SECTION 2

# DISASSEMBLY AND REPLACEMENT

**Note:** All screws in this service manual are Phillips type (cross recess type), unless otherwise indicated.

## 2-1. FRONT PANEL REMOVAL

1. Remove the top cover and the two side boards.
2. Remove the VOLUME control knob by loosening the set screw.
3. Remove the five screws shown in Fig. 2-1 and Fig. 2-2.

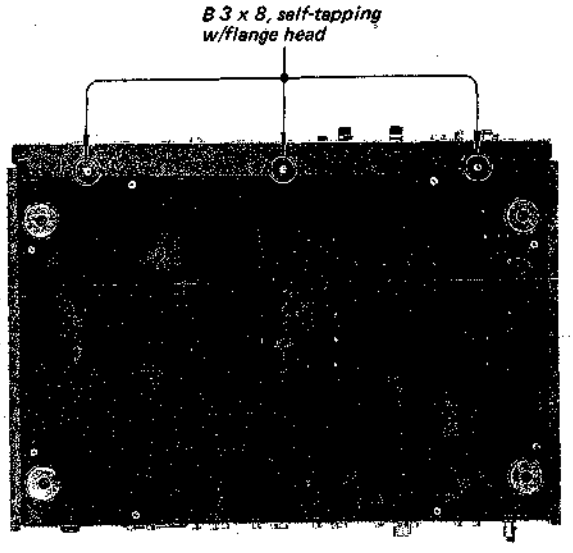



*Fig. 2-1. Front panel removal*

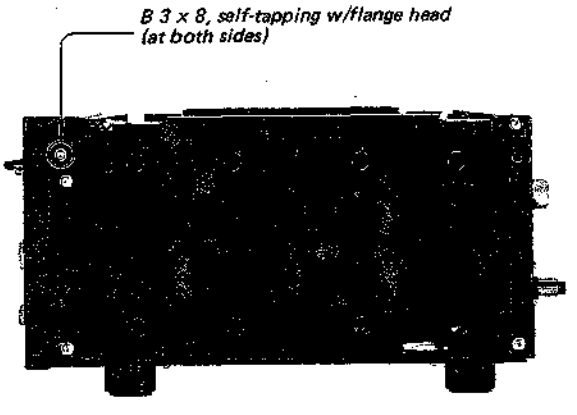



*Fig. 2-2. Front panel removal*

## 2-2. POWER SWITCH AND VOLUME CONTROL KNOB REMOVAL

1. The POWER switch knob can be removed by pulling it straight out, after removing the front panel.
2. The VOLUME control knob can be removed by loosening the set screw.

**Note:** All knobs except for the POWER switch and the VOLUME control knobs can be removed by pulling them straight out.

## 2-3. FRONT SUBCHASSIS REMOVAL

1. Remove the front panel as described in Procedure 2-1.
2. Loosen the two set screws shown in Fig. 2-3.
3. Unplug the 6-P connector from the I circuit board.
4. Remove the six screws shown in Fig. 2-4 and Fig. 2-5.
   This frees the front subchassis.

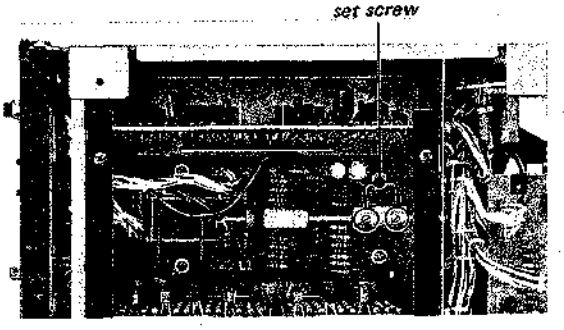



*Fig. 2-3. Front subchassis removal*

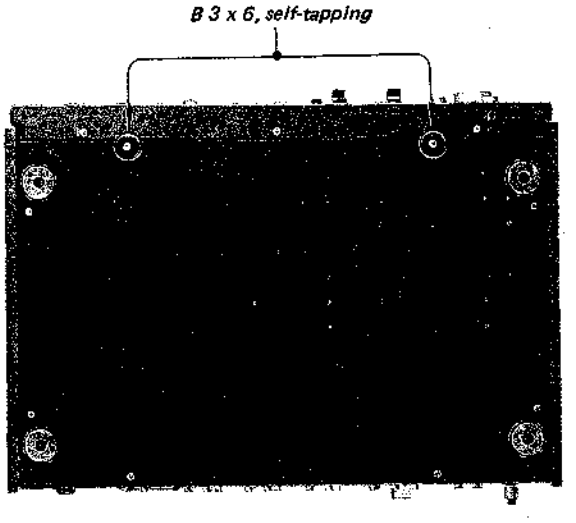



*Fig. 2-4. Front subchassis removal*

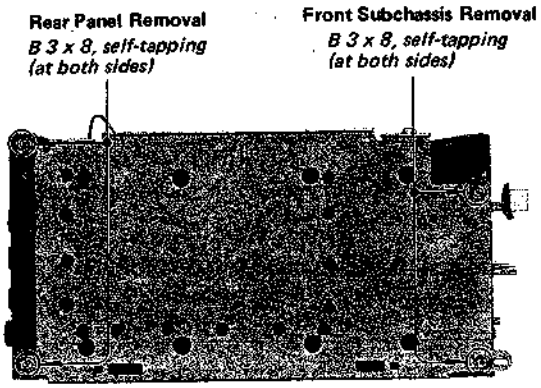



*Fig. 2-5. Front subchassis and rear panel removal*

## 2-4. REAR PANEL REMOVAL

1. Remove the top cover and the two side boards.
2. Remove the six screws shown in Fig. 2-5 and Fig. 2-6.
   This frees the rear panel.

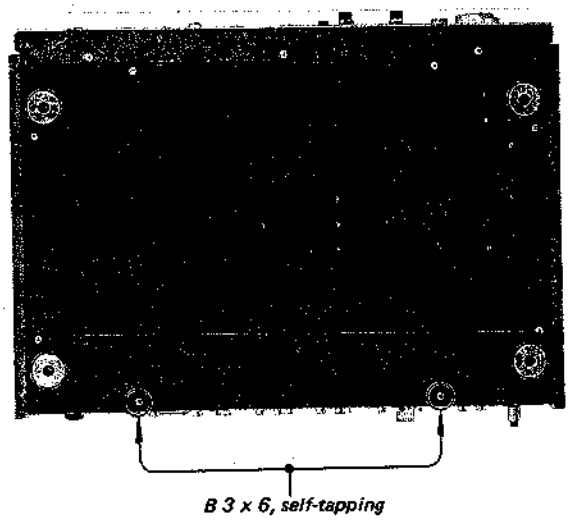



*Fig. 2-6. Rear panel removal*

## 2-5. CIRCUIT BOARD REMOVAL

**Note:** The names of all the circuit boards are replaced by alphabetical reference designation as follows:

| Ref. Designation | Circuit-Board |
|---|---|
| A | Volume Control |
| B | Selector Switch |
| C | Tone Control |
| D | Filter |
| E | MIC/AUX |
| F | Equalizer |
| G | Phono Head Amp |
| H | Tone Control Amp |
| I | Peak Program Meter |
| J | MIC/Headphone Amp |
| K | Phono Jack |
| L | Power Supply |

### A, B, C, D, E Circuit Boards

1. Remove the front subchassis as described in Procedure 2-3.
2. Remove the peak program meter.
3. Remove the screws shown in Fig. 2-7.
   This frees the circuit boards.

**Note:** Be careful to the direction of the connector as shown in Fig. 2-8, when replugging the connector.

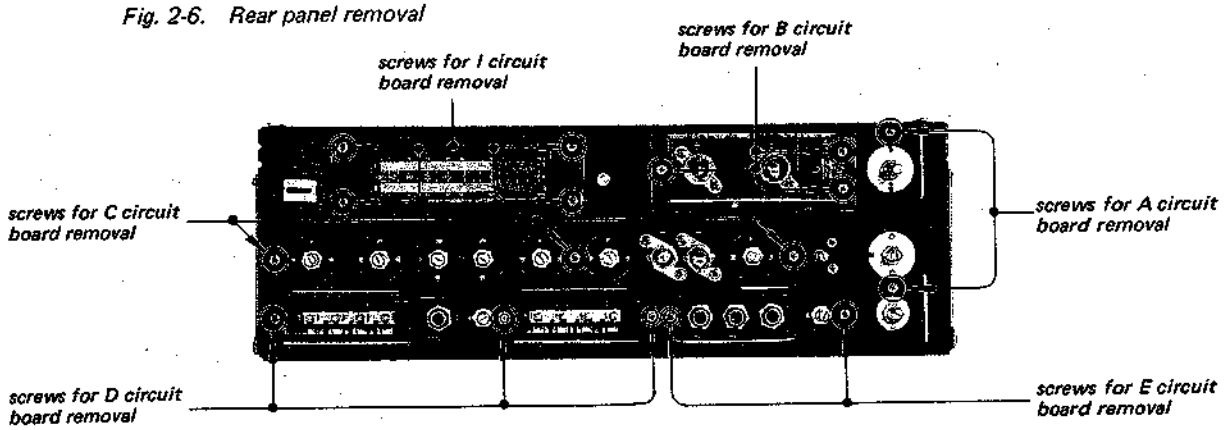



*Fig. 2-7. Circuit board removal*

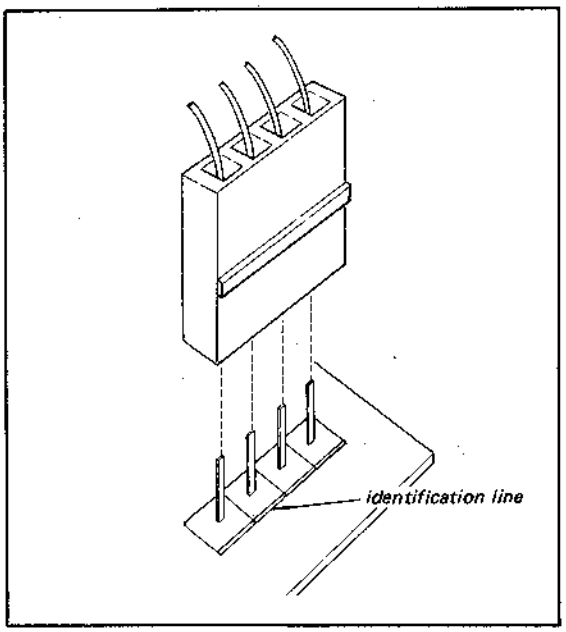



*Fig. 2-8. Connector installation*

**G Circuit Board**

Remove the bottom plate, and you can check the G circuit board.

**F, H, I, J Circuit Boards** (See Fig. 2-7)

1. Remove the four screws (marked ★) shown in Fig. 2-9.
2. Pull the circuit board straight off taking care not to break the circuit board.

**K Circuit Board**

1. Remove the two screws and the six nuts shown in Fig. 2-10.
2. Remove the rear panel as described in Procedure 2-4.
3. Remove the nylon rivets securing the phono jacks to the rear panel. To remove the nylon rivet, push its end as far as it goes.

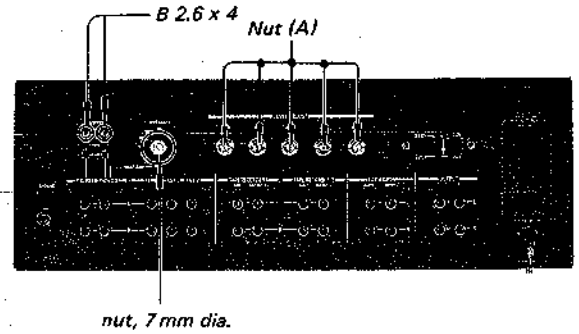



*Fig. 2-10. K circuit board removal*

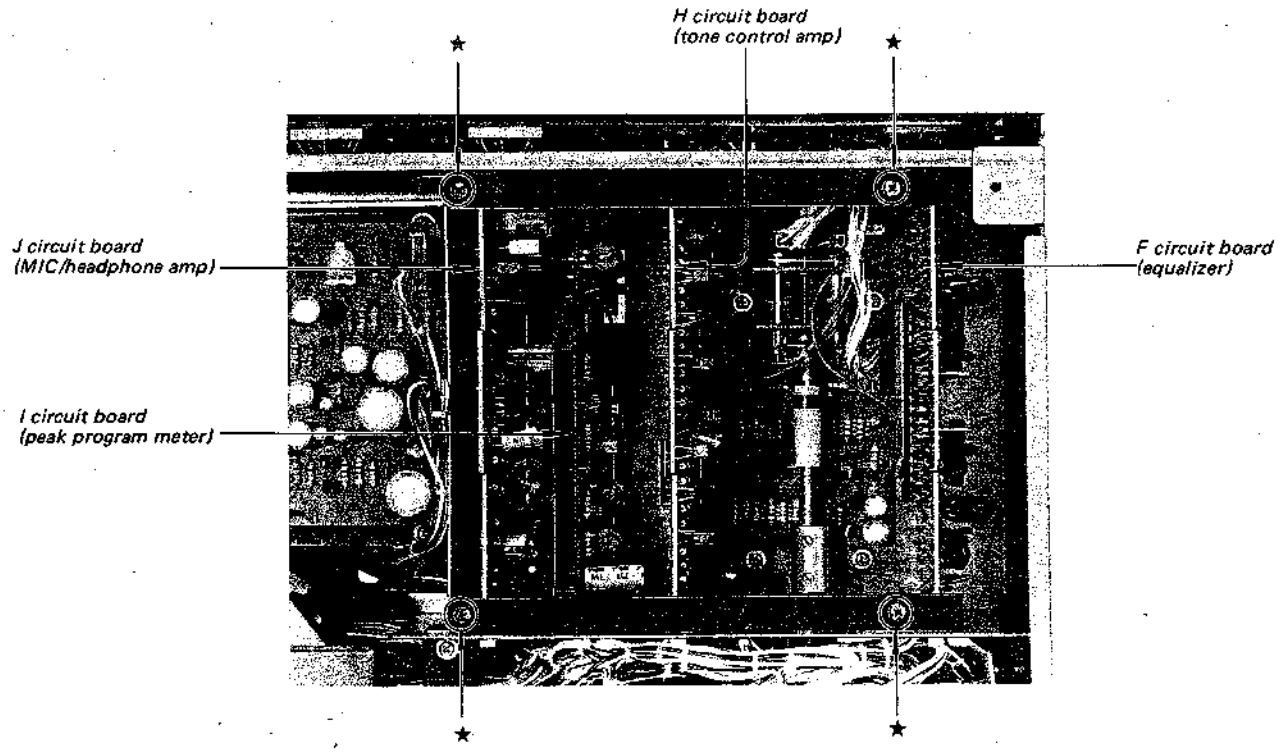



*Fig. 2-9. Circuit board removal*

## 2-6. CHASSIS LAYOUT

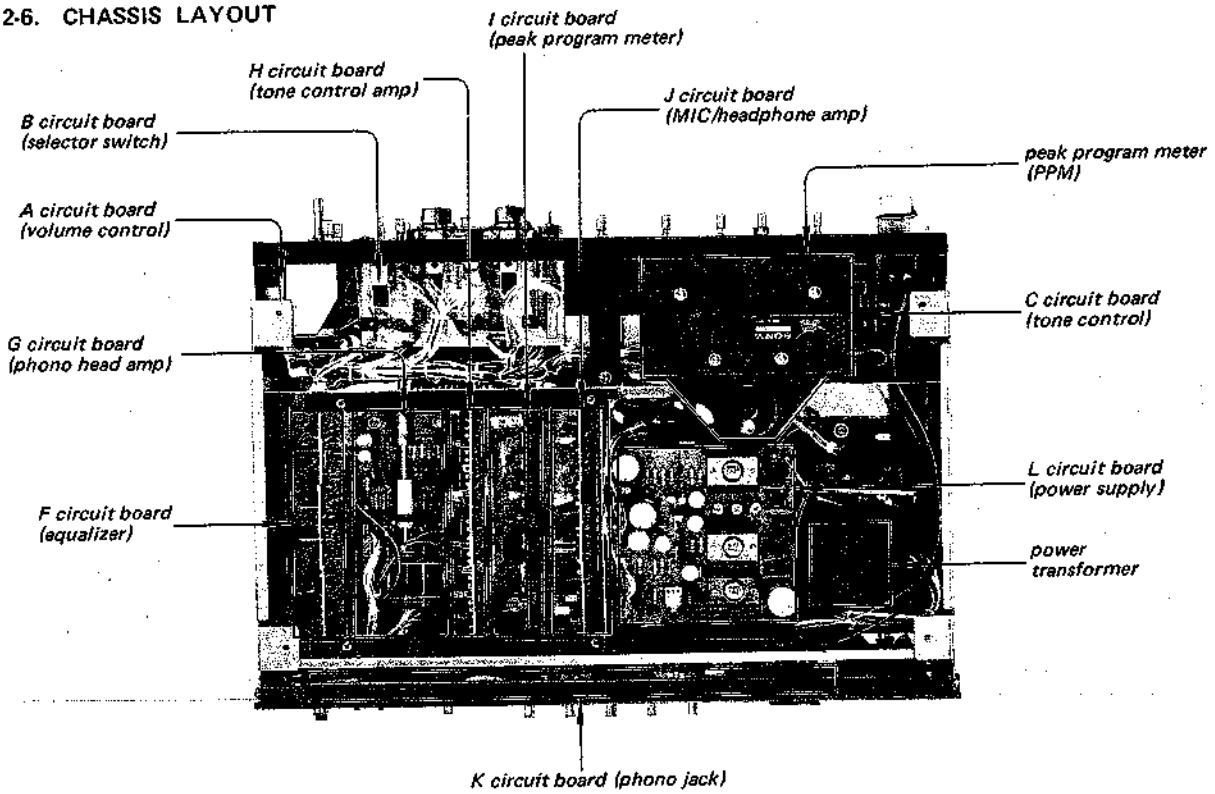



*Fig. 2-11. Chassis top view*

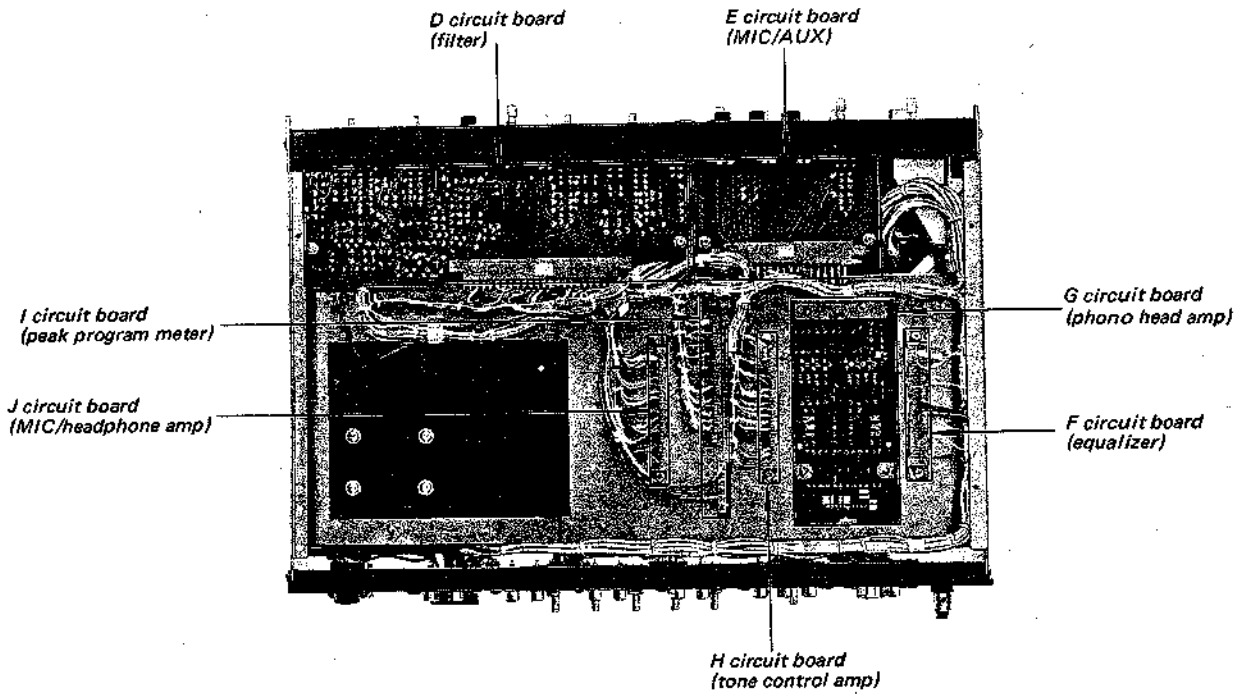



*Fig. 2-12. Chassis bottom view*

# SECTION 3

# ADJUSTMENTS

**Note:** Before starting the adjustments or checks, set the controls and the switches as follows, unless otherwise noted.

FUNCTION switch . . . . TUNER
MONITOR switch . . . . . SOURCE
MODE switch . . . . . L + R
VOLUME control . . . . . fully clockwise
BALANCE and TONE controls . . . . . mechanical mid
Other controls and switches . . . . . Not specially specified

## 3-1. POWER VOLTAGE CHECK

(See Fig. 3-1.)

Confirm that the specified power voltage is obtained.

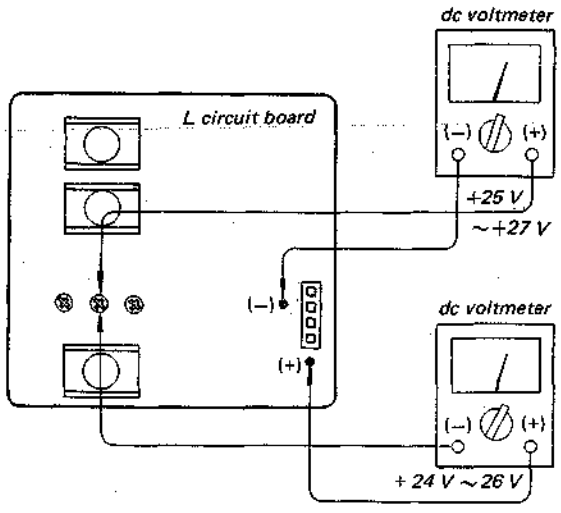



*Fig. 3-1. Power voltage check*

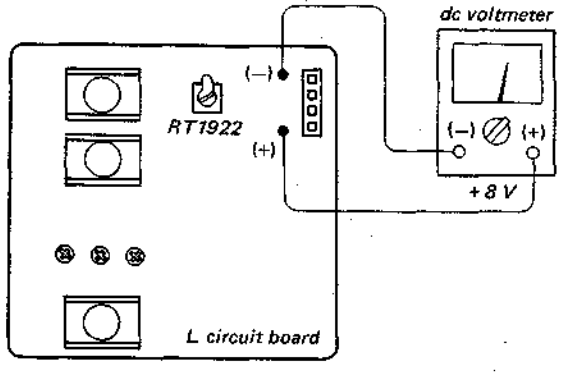



*Fig. 3-2. Lamp voltage adjustment*

## 3-2. LAMP VOLTAGE ADJUSTMENT

(See Fig. 3-2.)

Adjust RT1922 for +8 V reading on the dc voltmeter.

## 3-3. EQUALIZER ADJUSTMENT

(See Fig. 3-3.)

Adjust RT301 (L-CH), RT401 (R-CH) for 0 V reading on the dc voltmeter with no input signal.

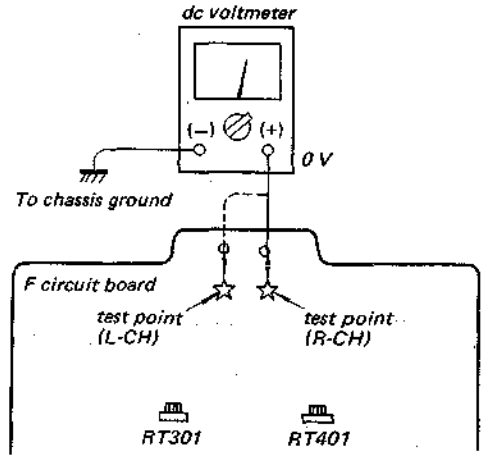



*Fig. 3-3. Equalizer adjustment*

## 3-4. PRESENCE SWITCH CHECK

1. Set the PRESENCE switch to OFF.
2. Connect the equipement as shown in Fig. 3-4.
3. Feed a 1 kHz signal to TUNER INPUT jack, and adjust the attenuator for 0 dB reading on the VTVM.
4. Change the PRESENCE switch to ON, and confirm that the VTVM reads +3.5 ± 1 dB.

## 3-5. PHONO SENSITIVITY CHECK

1. Connect the equipment as shown in Fig. 3-4.
2. Set the PHONO FUNCTION switch to PHONO-1.
3. Set the SENSITIVITY switch to 1.5 mV.
4. Feed a 1 kHz signal to PHONO-1 INPUT jack, and adjust the attenuator for 0 dB reading on the meter.

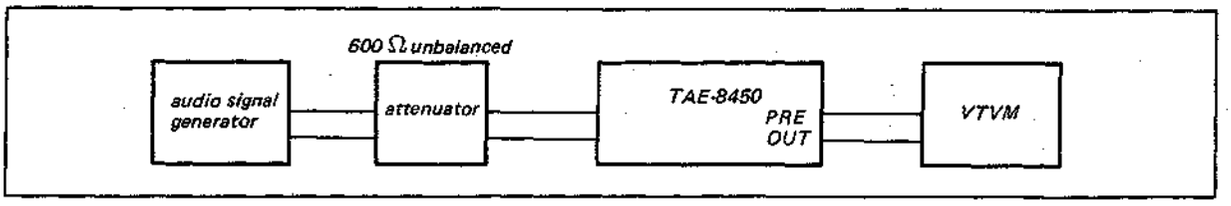



*Fig. 3-4. Presence switch check/phono sensitivity check/peak program meter adjustment setup*

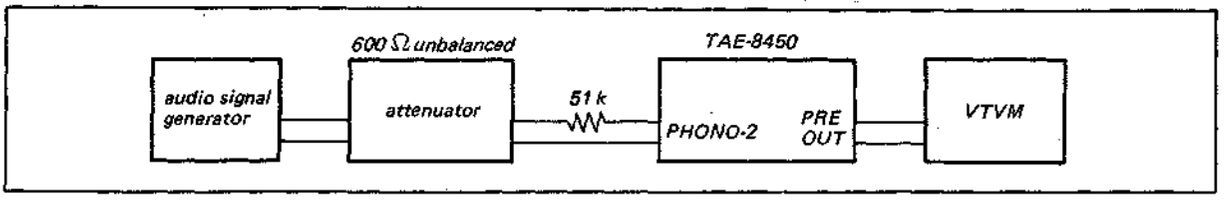



*Fig. 3-5. Pre-out check setup*

5. Change the SENSITIVITY switch to 4.5 mV, and confirm that the VTVM reads −10 ± 1 dB.
6. Change the PHONO FUNCTION switch to PHONO-2, and repeat above steps 3 to 5.

**Note:** Feed a 1 kHz signal to PHONO-2 INPUT jack for step 6.

### 3-6. PRE-OUT CHECK

1. Connect the equipment as shown in Fig. 3-5.
2. Set the PHONO FUNCTION switch to PHONO 2 − 50 kΩ, and the SENSITIVITY switch to 1.5 mV.
3. Feed a 1 kHz signal to PHONO-2 INPUT jack, and adjust the attenuator for 0 dB reading on the VTVM.
4. Change the PHONO FUNCTION switch to PHONO 2 − 100 kΩ.
5. Confirm that the VTVM reads +4.0 ± 1 dB.
6. Change the PHONO FUNCTION switch to PHONO 2-HEAD AMP.
7. Set the IMPEDANCE switch to 1 kΩ.
8. Feed a 1 kHz signal to PHONO-2 INPUT jack, and adjust the attenuator for 0 dB reading on the VTVM.
9. When the IMPEDANCE switch is changed to 100 Ω, 30 Ω, 10 Ω, confirm that the VTVM reads as follows.

| IMPEDANCE Switch Position | PRE OUT |
|---|---|
| 1 kΩ | 0 dB |
| 100 Ω | −12.5 ± 1 dB |
| 30 Ω | −17.0 ± 1 dB |
| 10 Ω | −26.0 ± 1 dB |

### 3-7. PEAK PROGRAM METER ADJUSTMENT

1. Set the METER FUNCTION switches to PEAK and PRE OUT, respectively.
2. With no input signal, adjust RT702 (L-CH), RT802 (R-CH) (See Fig. 3-6) so that the pointer indicates the specified position on the meter scale shown in Fig. 3-7.
3. Connect the equipment as shown in Fig. 3-4.
4. Feed a 1 kHz signal to TUNER INPUT jack, and adjust the attenuator for 1.0 V reading on the VTVM.
5. Adjust RT701 (L-CH), RT801 (R-CH) (See Fig. 3-6) so that the pointer indicates the specified position on the meter scale as shown in Fig. 3-8.

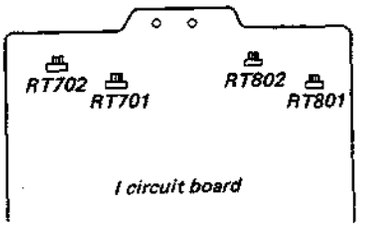



*Fig. 3-6. Adjustment parts location*

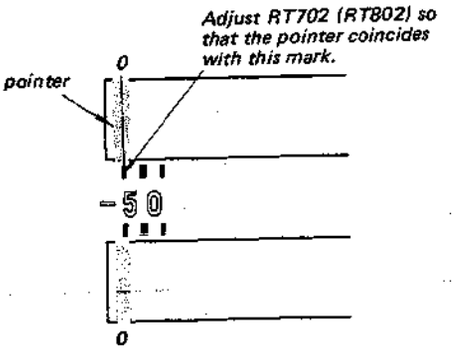



*Fig. 3-7. Peak program meter adjustment*

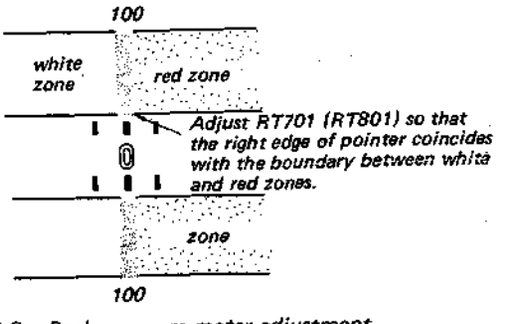
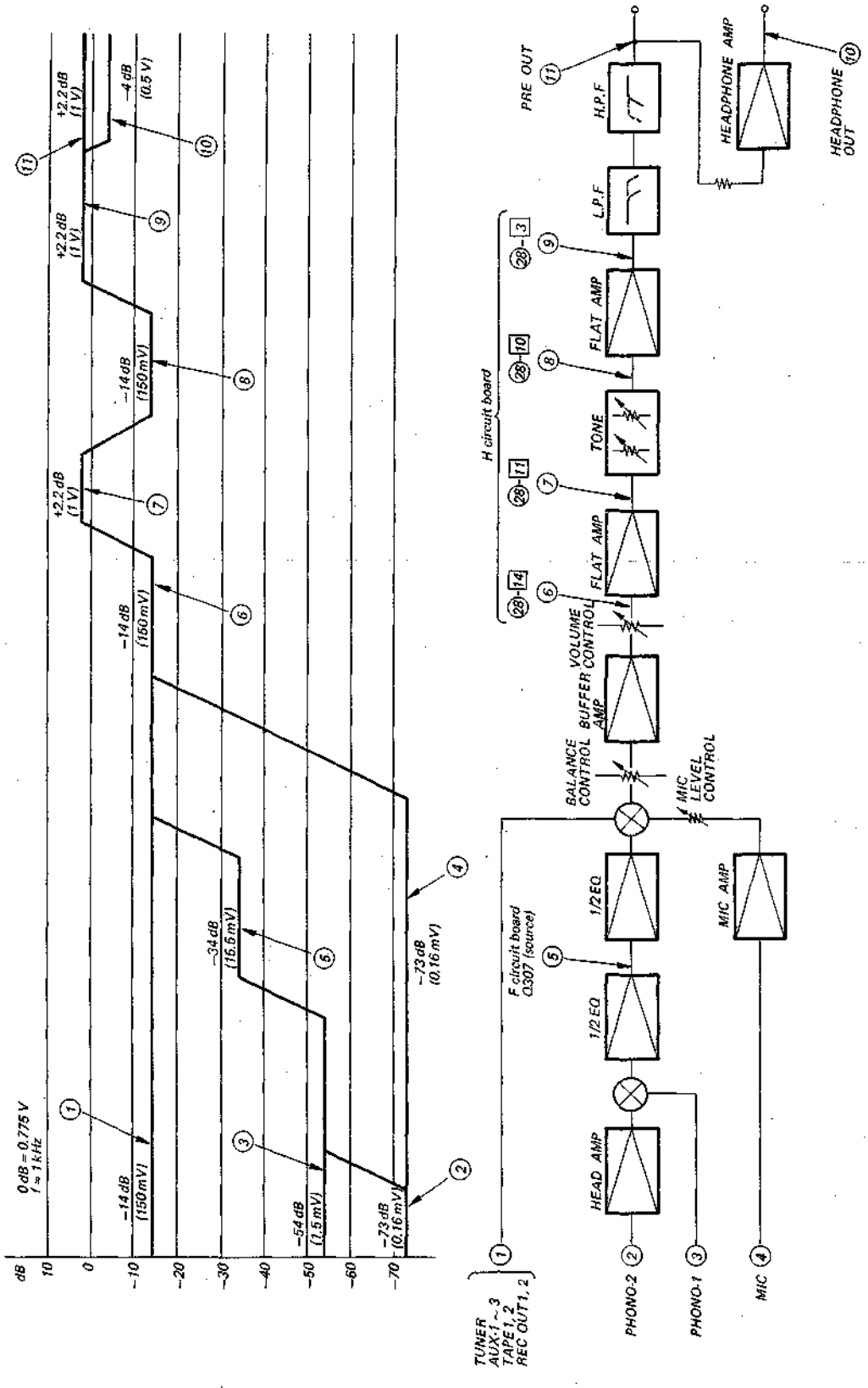



*Fig. 3-8. Peak program meter adjustment*

# SECTION 4
# DIAGRAMS

## 4-1. LEVEL DIAGRAM



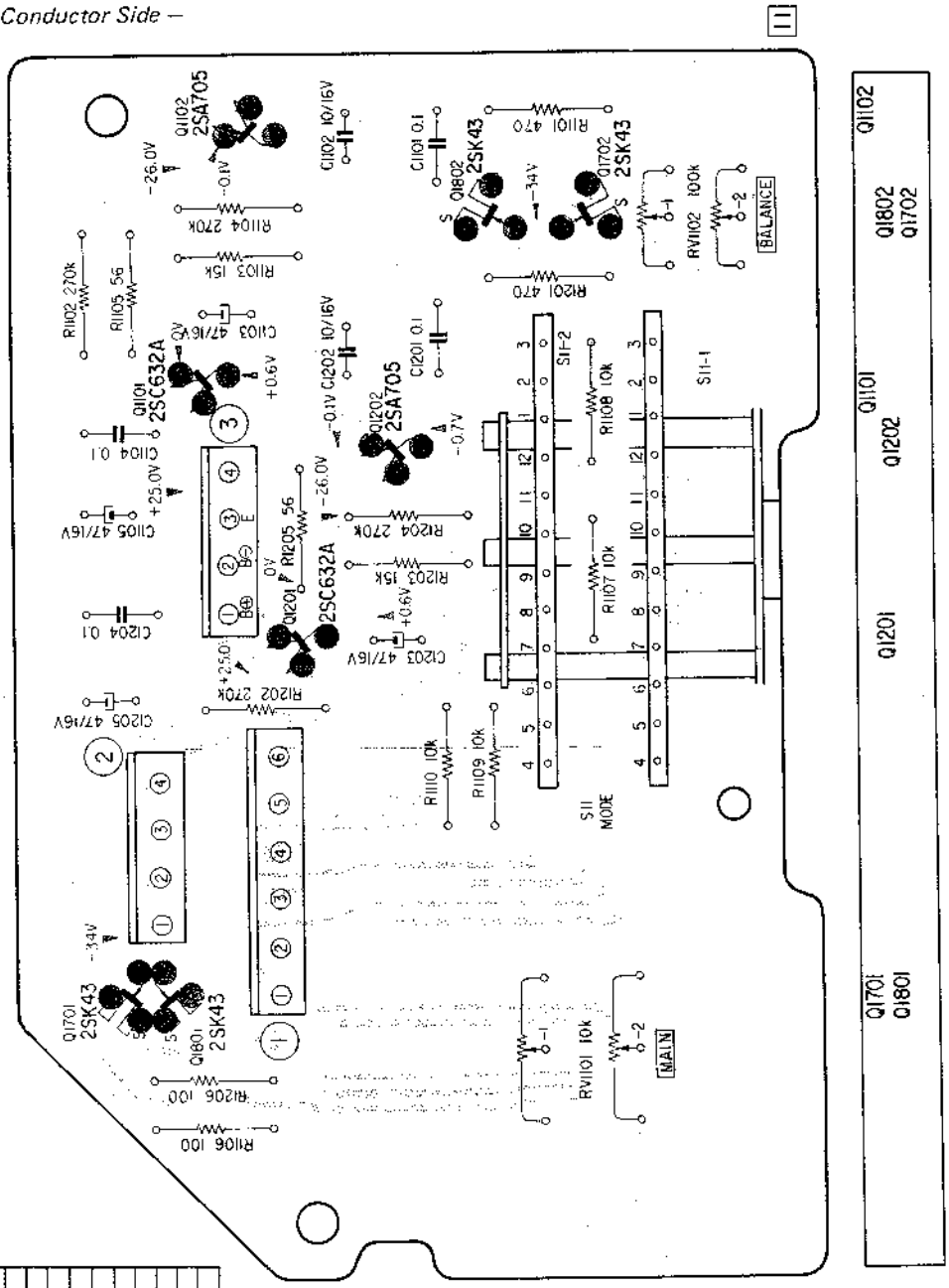

**Note:** Signal voltages are measured with an ac VTVM and expressed in dB referred to 0.775 V, 1 kHz.
Level check point is shown as follows.
○– □ —— Terminal No. of Connector
Connector No.

## MEMO

A

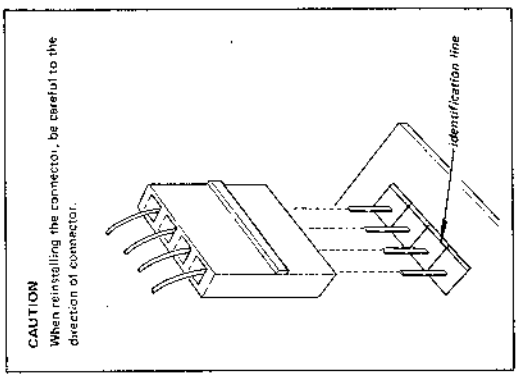
## 4-2. MOUNTING DIAGRAM – A Board (Volume Control) –

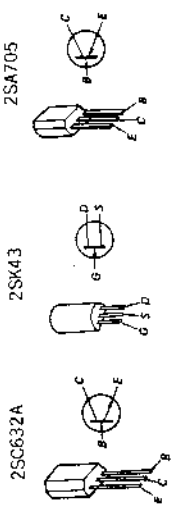
*– Conductor Side –*




**A Circuit Board**

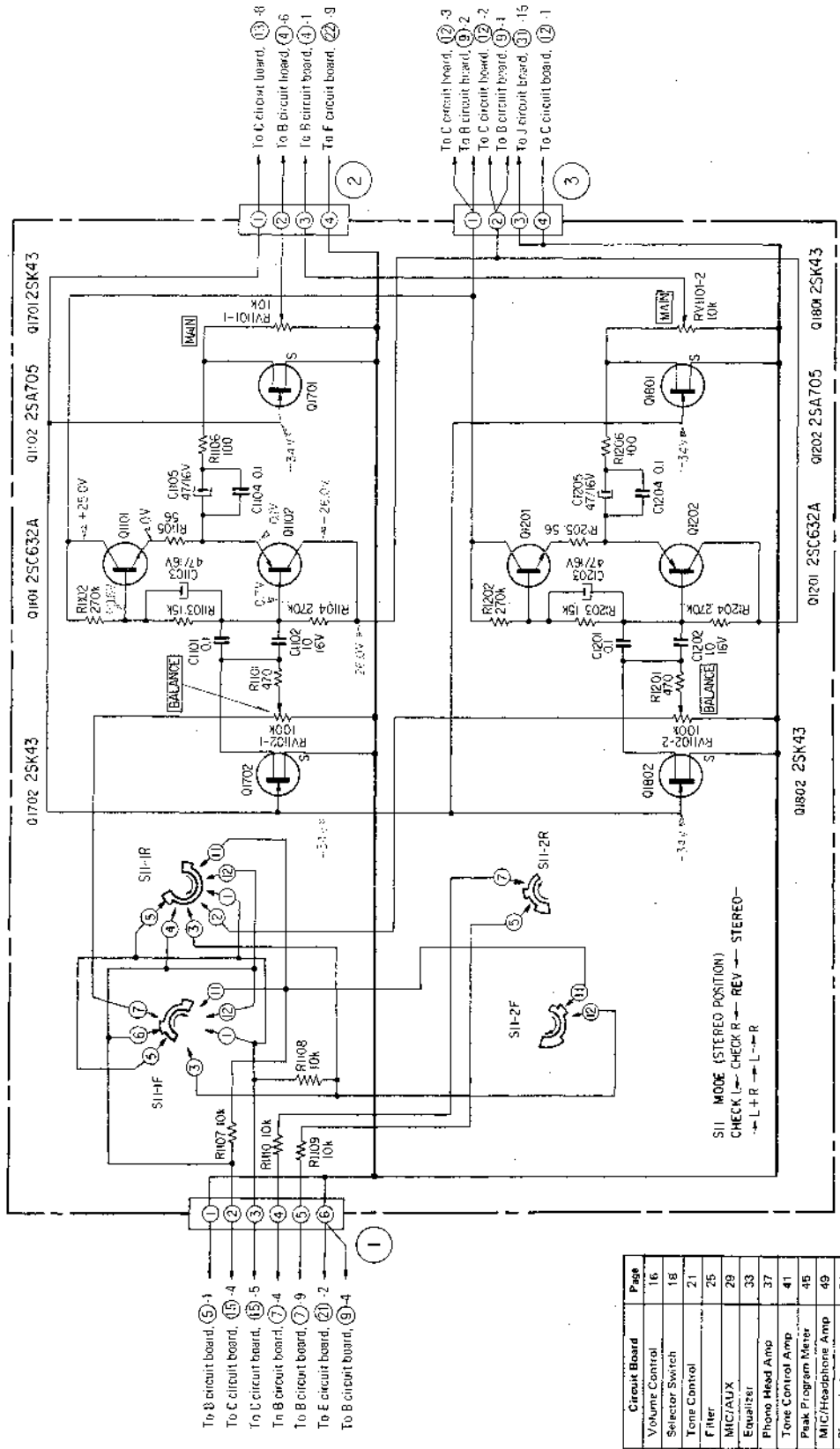
| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductor's Sheath | Color of Lead Wire: Tube | Connected to: Circuit Board | Connected to: Connector No. | Connected to: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| ① | 1 | BLK | | B | 5 | 1 |
| | 2 | BLU | | C | 15 | 4 |
| | 3 | WHT/BLU | | C | 15 | 5 |
| | 4 | WHT/GRN | | B | 7 | 4 |
| | 5 | GRN | | B | 7 | 9 |
| | 6 | BLK | | E | 21 | 2 |
| | | BLK | | B | 9 | 4 |
| ② | 1 | WHT/BLK | | C | 12 | 8 |
| | 2 | RED | | B | 4 | 6 |
| | 3 | WHT/RED | | B | 4 | 1 |
| | 4 | BLK | | F | 22 | 9 |
| ③ | 1 | BRN | | C | 12 | 3 |
| | | BRN | | B | 9 | 2 |
| | 2 | WHT/BRN | | C | 12 | 2 |
| | | WHT/BRN | | B | 9 | 1 |
| | 3 | BLK | | J | 31 | 15 |
| | 4 | BLK | | C | 12 | 1 |



A

## 4-3. SCHEMATIC DIAGRAM– A Section (Volume Control) –




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

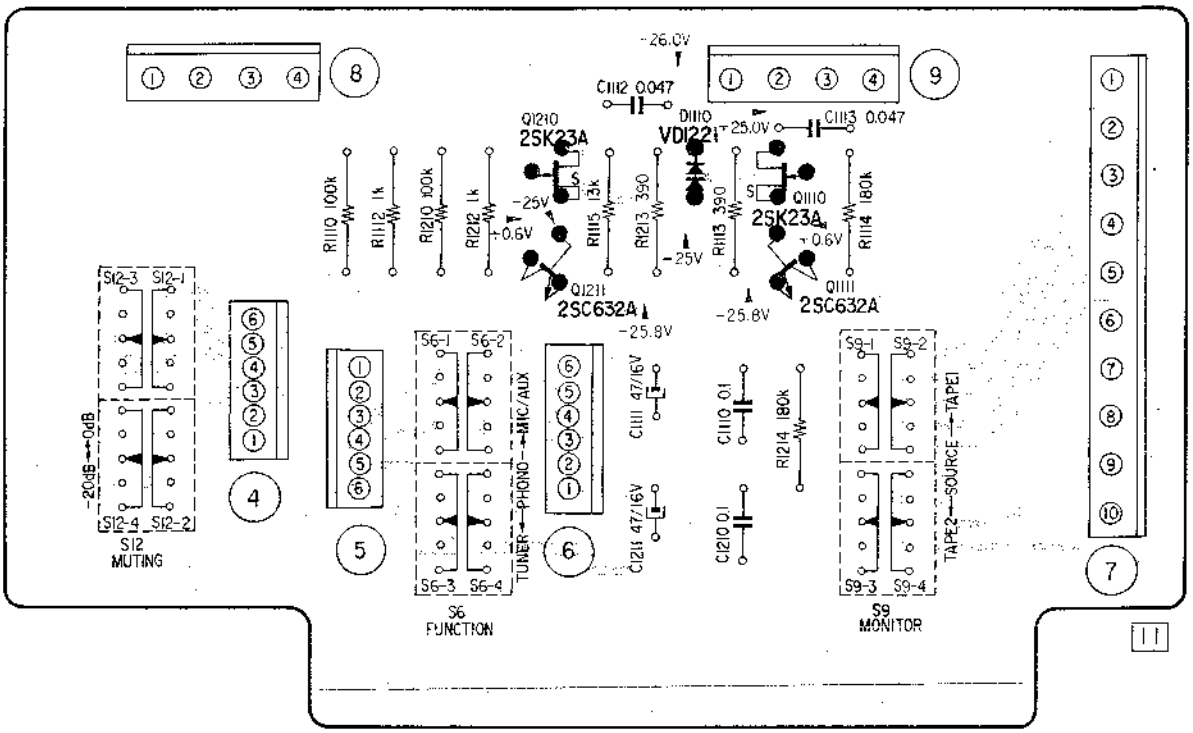
All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

**B**

## 4-4. MOUNTING DIAGRAM – B Board (Selector Switch) –

*– Conductor Side –*

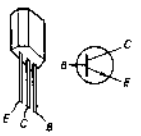



| | | |
|---|---|---|
| Q1210<br>Q1211 | D1110 | Q1110<br>Q1111 |

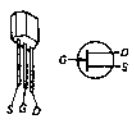
**B Circuit Board**

| Connector No. | Terminal No. of Connector | Color of Lead Wire | | Connected to | | |
|---|---|---|---|---|---|---|
| | | Conductor's Sheath | Tube | Circuit Board | Connector No. | Terminal No. of Connector |
| ④ | 1 | WHT/RED | | A | 2 | 3 |
| | 2 | RED | ORG | H | 28 | 13 |
| | 3 | ——— | | | | |
| | 4 | WHT | ORG | H | 28 | 14 |
| | 5 | SHIELD | ORG | H | 28 | 16 |
| | 6 | RED | | A | 2 | 2 |
| ⑤ | 1 | BLK | | A | 1 | 1 |
| | 2 | SHIELD | | H | 28 | 16 |
| | 3 | BLU | | C | 10 | 1 |
| | 4 | WHT | YEL | K | 35 | 9 |
| | 5 | BRN | | E | 21 | 11 |
| | 6 | WHT | RED | F | 22 | 16 |
| ⑥ | 1 | RED | RED | F | 22 | 3 |
| | 2 | ——— | | | | |
| | 3 | WHT/BRN | | E | 21 | 13 |
| | 4 | RED | YEL | K | 35 | 10 |
| | 5 | WHT/BLU | | C | 10 | 7 |
| | 6 | ——— | | | | |
| ⑦ | 1 | WHT/RED | | C | 15 | 7 |
| | 2 | WHT/VLT | | C | 14 | 9 |
| | 3 | WHT/GRN | | C | 14 | 3 |
| | 4 | WHT/GRN | | A | 1 | 4 |
| | | WHT/GRN | | E | 21 | 14 |
| | 5 | WHT/ORG | | C | 14 | 7 |
| | 6 | RED | | C | 15 | 1 |
| | 7 | VLT | | C | 14 | 4 |
| | 8 | GRN | | C | 14 | 8 |
| | 9 | GRN | | A | 1 | 5 |
| | | GRN | | E | 21 | 12 |
| | 10 | ORG | | C | 14 | 1 |
| ⑧ | 1 | WHT/ORG | | D | 20 | 42 |
| | 2 | WHT/YEL | | H | 28 | 12 |
| | 3 | ORG | | D | 20 | 44 |
| | 4 | YEL | | H | 28 | 11 |
| ⑨ | 1 | WHT/BRN | | A | 3 | 2 |
| | 2 | BRN | | A | 3 | 1 |
| | 3 | BLK | | K | 33 | 4 |
| | 4 | BLK | | A | 1 | 6 |

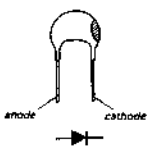
2SC632A




2SK23

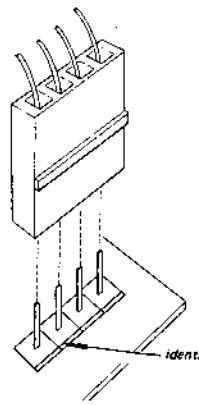



VD-1221

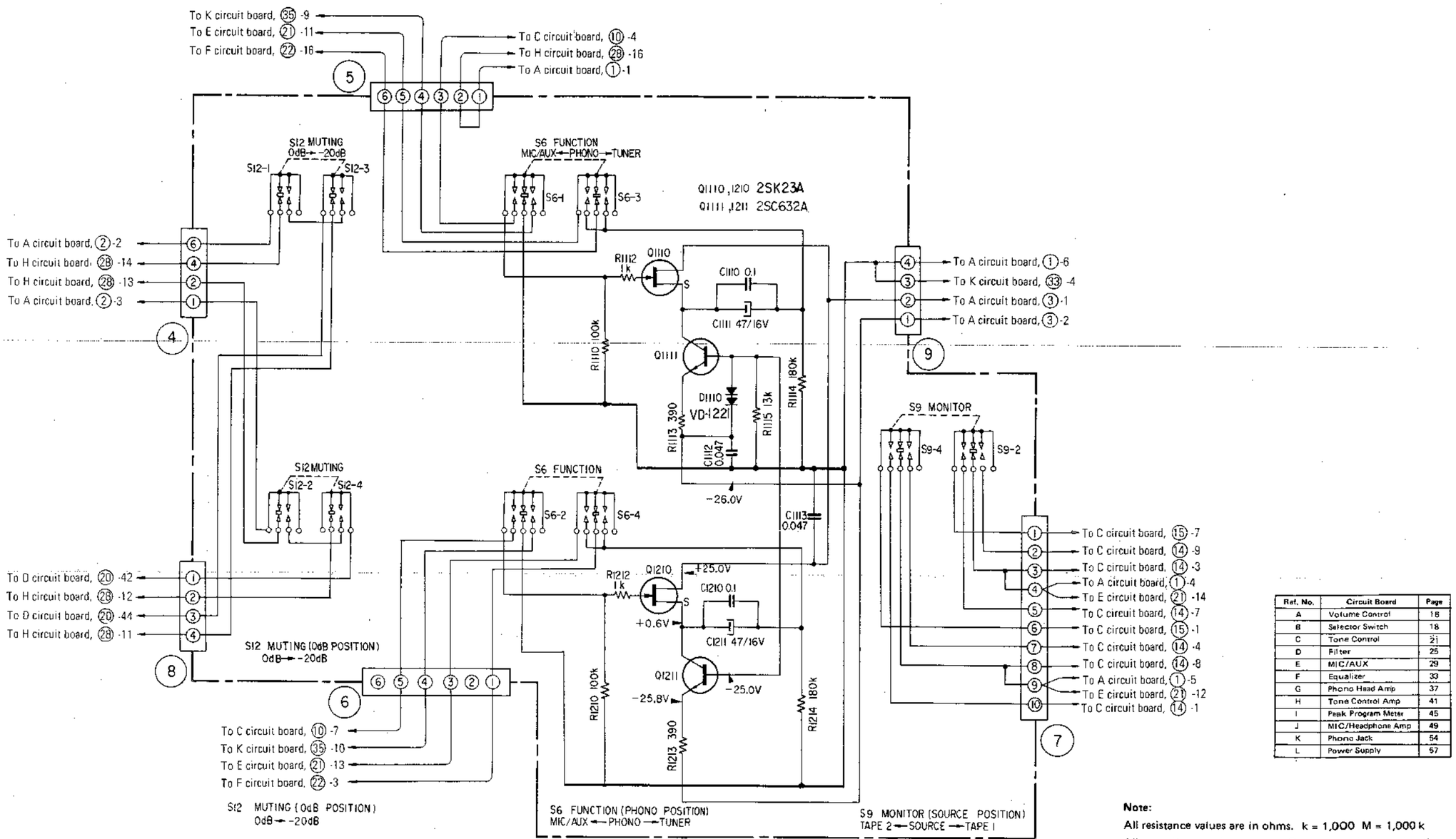



**CAUTION**

When reinstalling the connector, be careful to the direction of connector.



## 4-5. SCHEMATIC DIAGRAM – B Section (Selector Switch) –




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 18 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

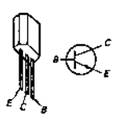
Voltage variations may be noted because of normal production tolerances.

## 4-6. MOUNTING DIAGRAM – C Board (Tone Control) –

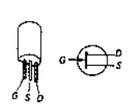
*– Conductor Side –*

C C

2SC632A




2SK43




**C Circuit Board**

| Connector No. | Terminal No. of Connector | Color of Lead Wire | | To | | |
|---|---|---|---|---|---|---|
| | | Conductors Sheath | Tube | Circuit Board | Connector No. | Terminal No. of Connector |
| ⑩ | 1 | BLU | | B | 5 | 3 |
| | 2 | WHT | BLU | K | 35 | 5 |
| | 3 | WHT | GRN | K | 35 | 2 |
| | 4 | ORG | | E | 21 | 3 |
| | 5 | RED | GRN | K | 35 | 1 |
| | 6 | RED | BLU | K | 35 | 4 |
| | 7 | WHT/BLU | | B | 6 | 5 |
| | 8 | WHT/ORG | | E | 21 | 1 |
| ⑫ | 1 | BLK | | A | 3 | 4 |
| | 2 | WHT/BRN | | D | 20 | 4 |
| | | WHT/BRN | | A | 3 | 2 |
| | 3 | BRN | | D | 20 | 1 |
| | | BRN | | A | 3 | 1 |
| | 4 | VLT | | K | 33 | 8 |
| ⑬ | 1 | WHT/GRN | | K | 33 | ⑤ |
| | 2 | | | | | |
| | 3 | RED | RED | ●S25 | | ④ |
| | 4 | WHT/VLT | | K | 33 | 7 |
| | 5 | GRN | | K | 33 | 6 |
| | 6 | WHT | RED | ●S25 | | ⑩ |
| | 7 | WHT/BLK | | D | 20 | 7 |
| | 8 | WHT/BLK | | A | 2 | 1 |

●S25 shows reference number of switch.

**C Circuit Board**

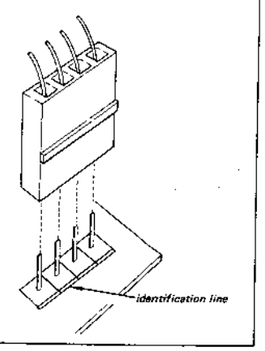
| Connector No. | Terminal No. of Connector | Color of Lead Wire | | To | | |
|---|---|---|---|---|---|---|
| | | Conductors Sheath | Tube | Circuit Board | Connector No. | Terminal No. of Connector |
| ⑭ | 1 | ORG | | B | 7 | 10 |
| | 2 | WHT | YEL | K | 34 | 9 |
| | 3 | GRN | | B | 7 | 8 |
| | 4 | VLT | | B | 7 | 7 |
| | 5 | WHT | GRN | K | 34 | 5 |
| | 6 | RED | YEL | K | 34 | 10 |
| | 7 | WHT/ORG | | B | 7 | 5 |
| | 8 | WHT/GRN | | B | 7 | 3 |
| | 9 | WHT/VLT | | B | 7 | 2 |
| | 10 | RED | GRN | K | 34 | 4 |
| ⑮ | 1 | RED | | B | 7 | 6 |
| | 2 | WHT | CLEAR | K | 34 | 1 |
| | 3 | WHT | ORG | K | 33 | 1 |
| | 4 | BLU | | A | 1 | 2 |
| | 5 | WHT/BLU | | A | 1 | 3 |
| | 6 | RED | ORG | K | 33 | 3 |
| | 7 | WHT/RED | | B | 7 | 1 |
| | 8 | RED | CLEAR | K | 34 | 3 |

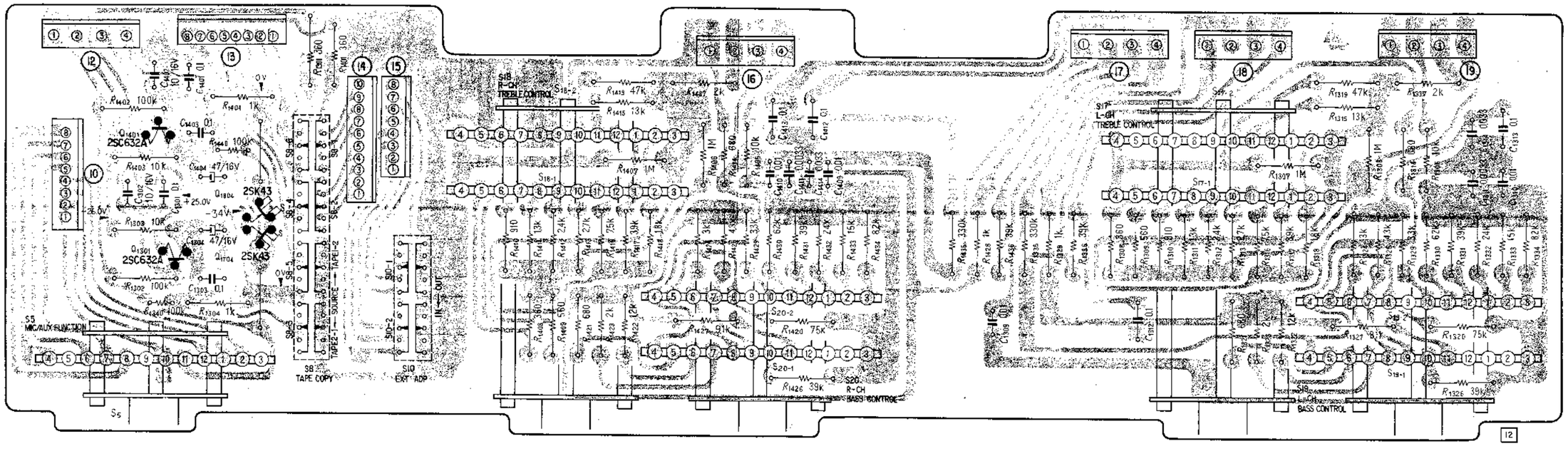
**C Circuit Board**

| Connector No. | Terminal No. of Connector | Color of Lead Wire | | To | | |
|---|---|---|---|---|---|---|
| | | Conductors Sheath | Tube | Circuit Board | Connector No. | Terminal No. of Connector |
| ⑯ | 1 | WHT | RED | D | 20 | 37 |
| | 2 | WHT/VLT | | D | 20 | 30 |
| | 3 | WHT/GRN | | D | 20 | 34 |
| | 4 | WHT/BLU | | D | 20 | 38 |
| ⑰ | 1 | YEL | RED | D | 20 | 26 |
| | 2 | SHIELD | RED | | | |
| | 3 | WHT | RED | D | 20 | 24 |
| | 4 | RED | RED | D | 20 | 22 |
| ⑱ | 1 | SHIELD | CLEAR | | | |
| | 2 | YEL | CLEAR | D | 20 | 16 |
| | 3 | RED | CLEAR | D | 20 | 18 |
| | 4 | WHT | CLEAR | D | 20 | 20 |
| ⑲ | 1 | WHT | CLEAR | D | 20 | 35 |
| | 2 | BLU | | D | 20 | 40 |
| | 3 | VLT | | D | 20 | 32 |
| | 4 | GRN | | D | 20 | 28 |

**CAUTION**

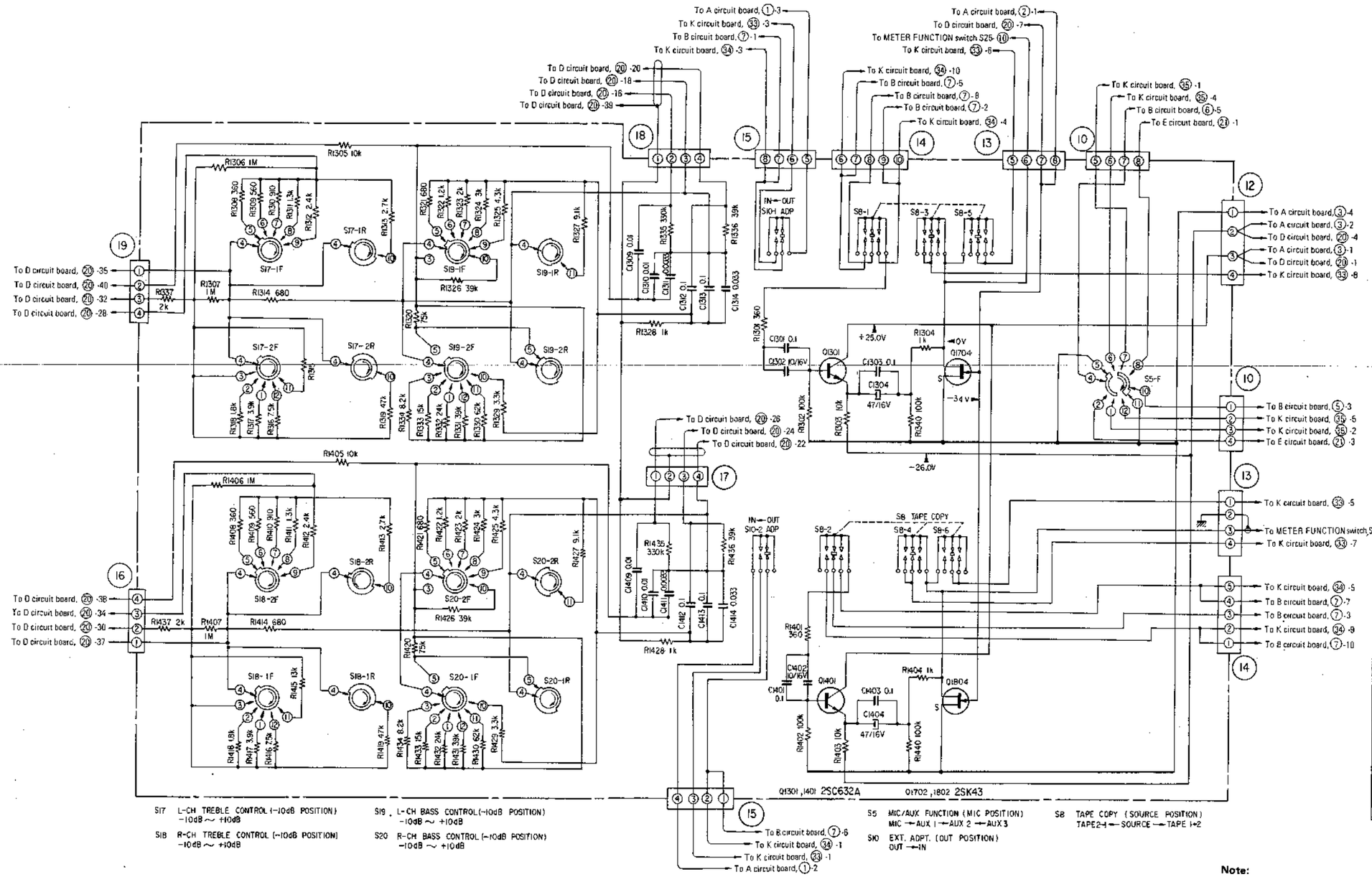
When reinstalling the connector, be careful to the direction of connector.



## 4-7. SCHEMATIC DIAGRAM – C Section (Tone Control) –

C C




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

D D

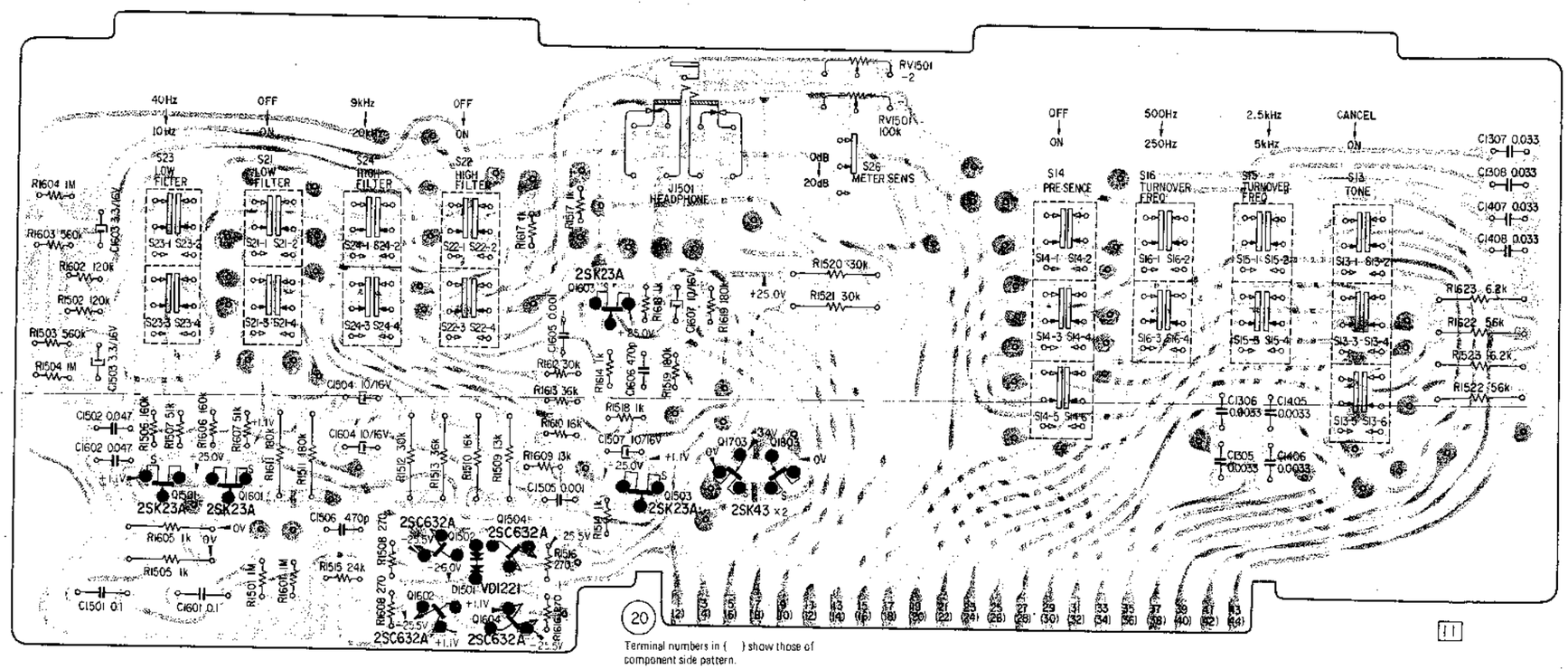
## 4-8. MOUNTING DIAGRAM – D Board (Filter) –

*– Conductor Side –*

**D Circuit Board**

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductor's Sheath | Tube | Connected to: Circuit Board | Connector No. | Terminal No. of Connector |
|---|---|---|---|---|---|---|
| | 1 | BRN | | F | 22 | 18 |
| | | BRN | | C | 12 | 3 |
| | 3 | BLK | | H | 28 | 6 |
| | | SHIELD ( (20)-5, 9 (BLK, TUBE) IS SHIELDED) | | | | |
| | 5 | WHT | ORG | K | 32 | 1 |
| | | WHT | BLK | ●S25 | | (9) |
| | 7 | WHT/BLK | | L | 38 | 4 |
| | | WHT/BLK | | C | 13 | 7 |
| | 9 | RED | ORG | K | 32 | 3 |
| | | RED | BLK | ●S25 | | (3) |
| | 11 | RED | CLEAR | K | 32 | 8 |
| | 13 | RED | YEL | J | 31 | 6 |
| | 15 | WHT | YEL | J | 31 | 1 |
| (20)-A | 17 | WHT | CLEAR | K | 32 | 6 |
| | 19 | —— | | | | |
| | 21 | WHT | BLU | H | 28 | 10 |
| | 23 | RED | BLU | H | 28 | 9 |
| | 25 | WHT/GRY | | H | 28 | 7 |
| | 27 | GRY | | H | 28 | 1 |
| | 29 | WHT/BRN | | H | 28 | 2 |
| | 31 | WHT/BLK | | H | 28 | 8 |
| | 33 | WHT/RED | | H | 28 | 6 |
| | 35 | WHT | CLEAR | C | 19 | 1 |
| | 37 | WHT | RED | C | 16 | 1 |
| | 39 | SHIELD | CLEAR | C | 18 | 1 |
| | 41 | SHIELD (of (20)-35) | | | | |
| | 43 | SHIELD (of (20)-36) | CLEAR | | | |
| | | BLK | | H | 28 | 4 |
| | 2 | WHT/BRN | | F | 22 | 17 |
| | 4 | WHT/BRN | | C | 12 | 2 |
| | 6 | BLK | | J | 31 | 2 |
| | 8 | VLT | | I | 29 | 13 |
| | 10 | RED | GRN | J | 31 | 7 |
| | 12 | —— | | | | |
| | 14 | WHT | GRN | J | 31 | 8 |
| | 16 | YEL | CLEAR | C | 18 | 2 |
| | 18 | RED | CLEAR | C | 18 | 3 |
| | 20 | WHT | CLEAR | C | 18 | 4 |
| (20)-B | 22 | RED | RED | C | 17 | 4 |
| | 24 | WHT | RED | C | 17 | 3 |
| | 26 | YEL | RED | C | 17 | 1 |
| | 28 | GRN | | C | 19 | 4 |
| | 30 | VLT | | C | 18 | 3 |
| | 32 | WHT/VLT | | C | 16 | 7 |
| | 34 | WHT/GRN | | C | 16 | 3 |
| | 36 | RED | | H | 28 | 3 |
| | 38 | WHT/BLU | | C | 16 | 4 |
| | 40 | BLU | | C | 19 | 2 |
| | 42 | WHT/ORG | | B | 8 | 1 |
| | 44 | ORG | | B | 8 | 3 |

● S25 shows reference number of switch.




Q1603

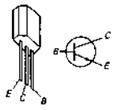
Q1502 D1501 Q1504 Q1503 Q1703 Q1803

Q1501 Q1601 Q1602 Q1604

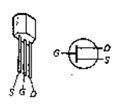
**Note:** ▨ . . . Conductor Side Pattern

▨ . . . Component Side Pattern

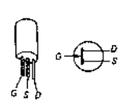
2SC632A



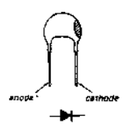

2SK23A




2SK43

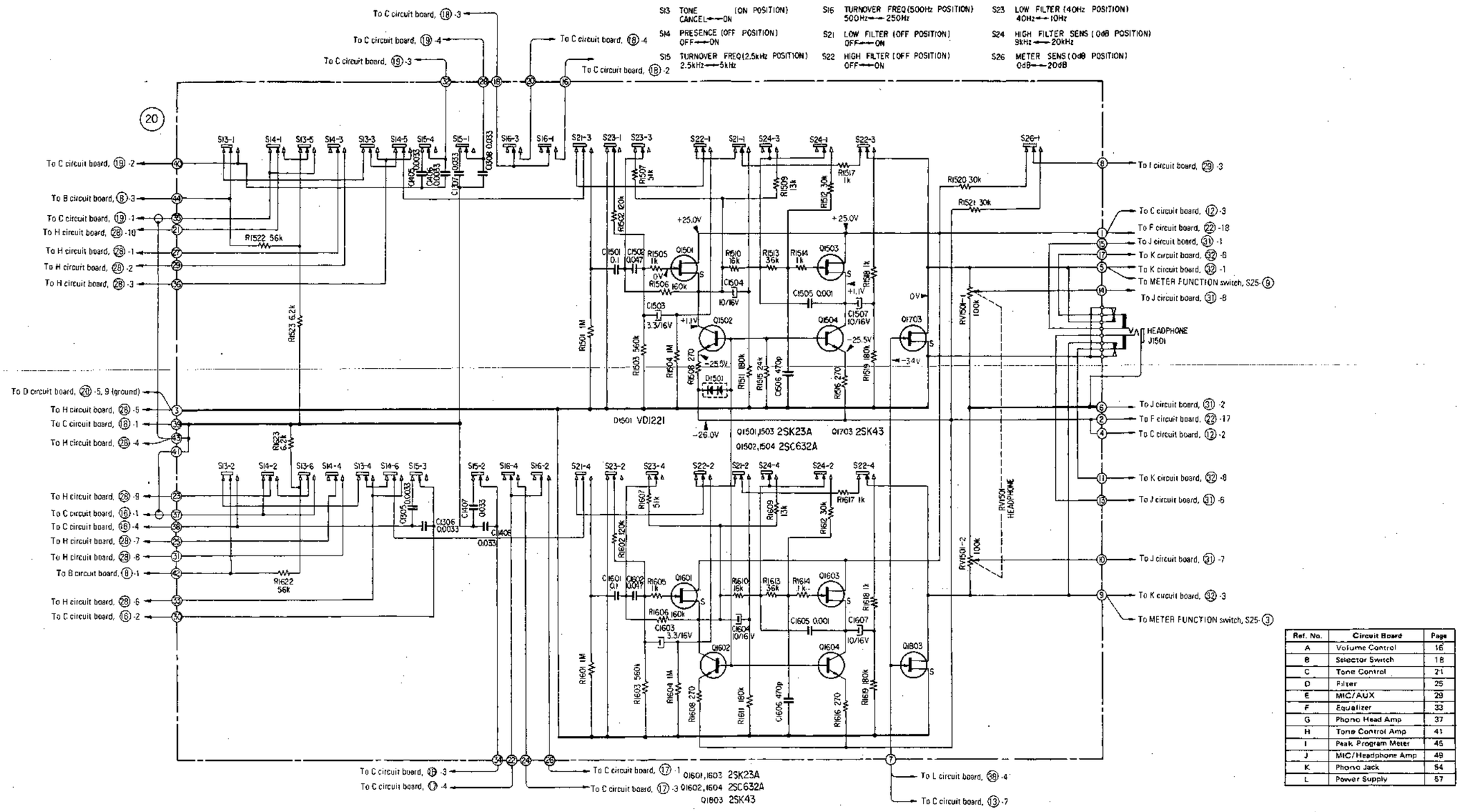



VD-1221



## 4-9. SCHEMATIC DIAGRAM – D Section (Filter) –

D D




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

E E

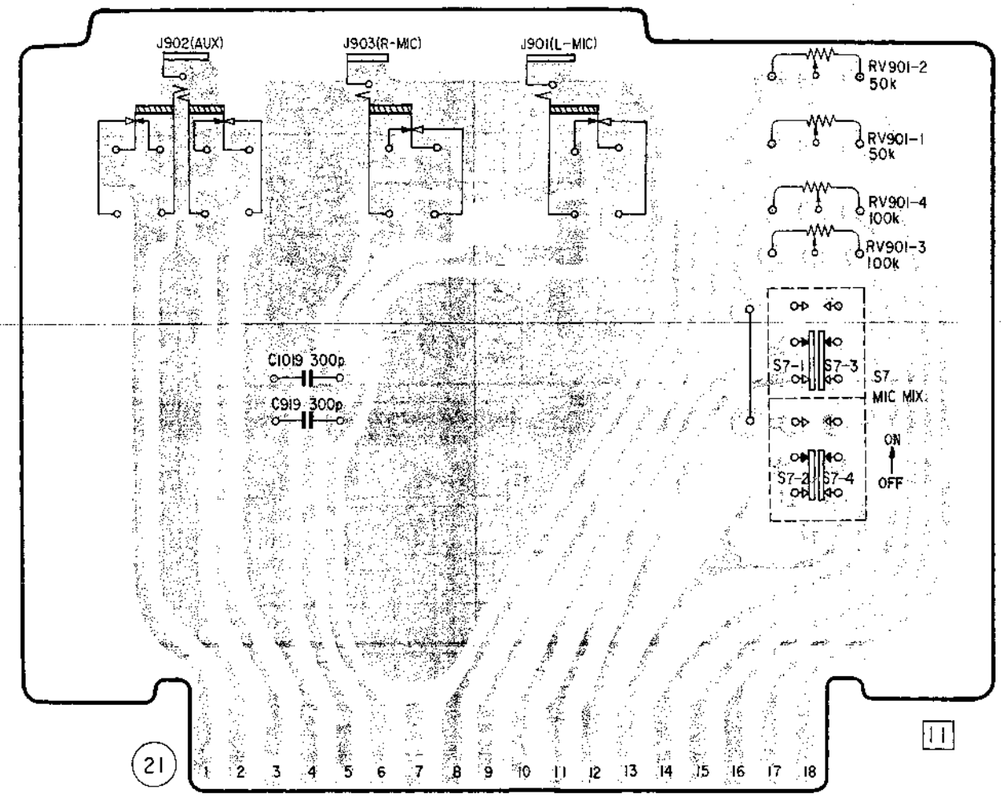
## 4-10. MOUNTING DIAGRAM – E Board (MIC/AUX) –

*– Conductor Side –*

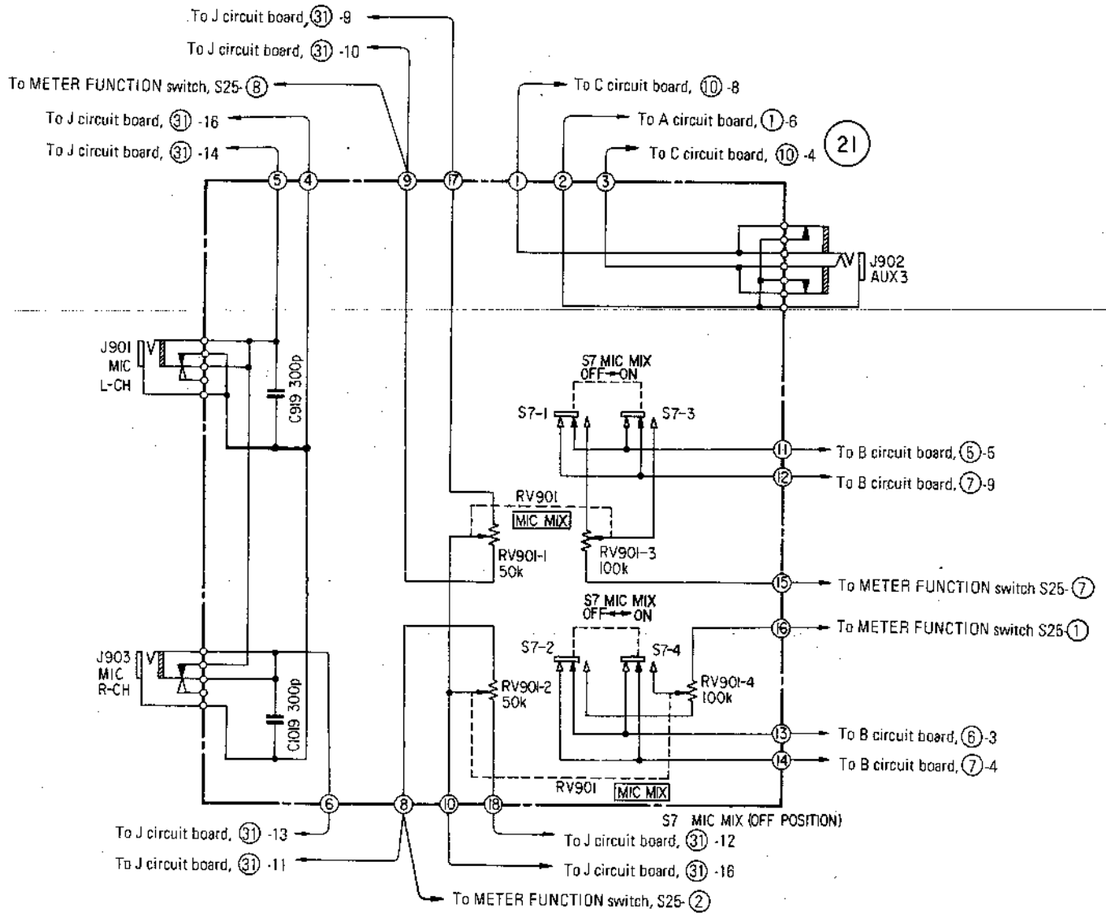
E Circuit Board

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductors Sheath | Color of Lead Wire: Tube | Connected to: Circuit Board | Connected to: Connector No. | Connected to: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| ㉑ | 1 | WHT/ORG | | C | 10 | 8 |
| | 2 | BLK | | A | 1 | 6 |
| | 3 | ORG | | C | 10 | 4 |
| | 4 | SHIELD | ORG | J | 31 | 16 |
| | 5 | WHT | ORG | J | 31 | 14 |
| | 6 | RED | ORG | J | 31 | 13 |
| | 7 | ——— | | | | |
| | 8 | WHT/VLT | | J | 31 | 11 |
| | | WHT/VLT | | ●S25 | | ② |
| | 9 | VLT | | ●S25 | | ⑧ |
| | | VLT | | J | 31 | 10 |
| | 10 | BLK | | J | 31 | 16 |
| | 11 | BRN | | B | 5 | 5 |
| | 12 | GRN | | B | 7 | 9 |
| | 13 | WHT/BRN | | B | 6 | 3 |
| | 14 | WHT/GRN | | B | 7 | 4 |
| | 15 | YEL | | ●S25 | | ⑦ |
| | 16 | WHT/YEL | | ●S25 | | ① |
| | 17 | GRY | | J | 31 | 9 |
| | 18 | WHT/GRY | | J | 31 | 12 |

●S25 shows reference number of switch.



## 4-11. SCHEMATIC DIAGRAM – E Section (MIC/AUX) –




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

F F

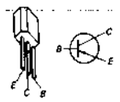
## 4-12. MOUNTING DIAGRAM – F Board (Equalizer) –

*– Conductor Side –*

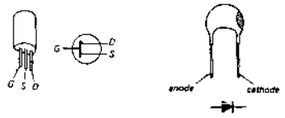
F Circuit Board

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductors Sheath | Color of Lead Wire: Tube | To: Circuit Board | To: Connector No. | To: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| ㉒ | 1 | BRN | | G | R110 | |
| | 2 | —— | | | | |
| | 3 | RED | RED | B | 6 | 1 |
| | 4 | —— | | | | |
| | 5 | —— | | | | |
| | 6 | —— | | | | |
| | 7 | RED | YEL | G | 26 | 10 |
| | 8 | SHIELD | YEL | G | 26 | 6 |
| | 9 | BLK | | A | 2 | 4 |
| | 10 | SHIELD | RED | | | |
| | 11 | —— | | | | |
| | 12 | WHT | YEL | G | 26 | 4 |
| | 13 | —— | | | | |
| | 14 | —— | | | | |
| | 15 | —— | | | | |
| | 16 | WHT | RED | B | 5 | 6 |
| | 17 | WHT/BRN | | D | 20 | 2 |
| | | WHT/BRN | | H | 28 | 17 |
| | 18 | BRN | | D | 20 | 1 |
| | | BRN | | H | 28 | 18 |

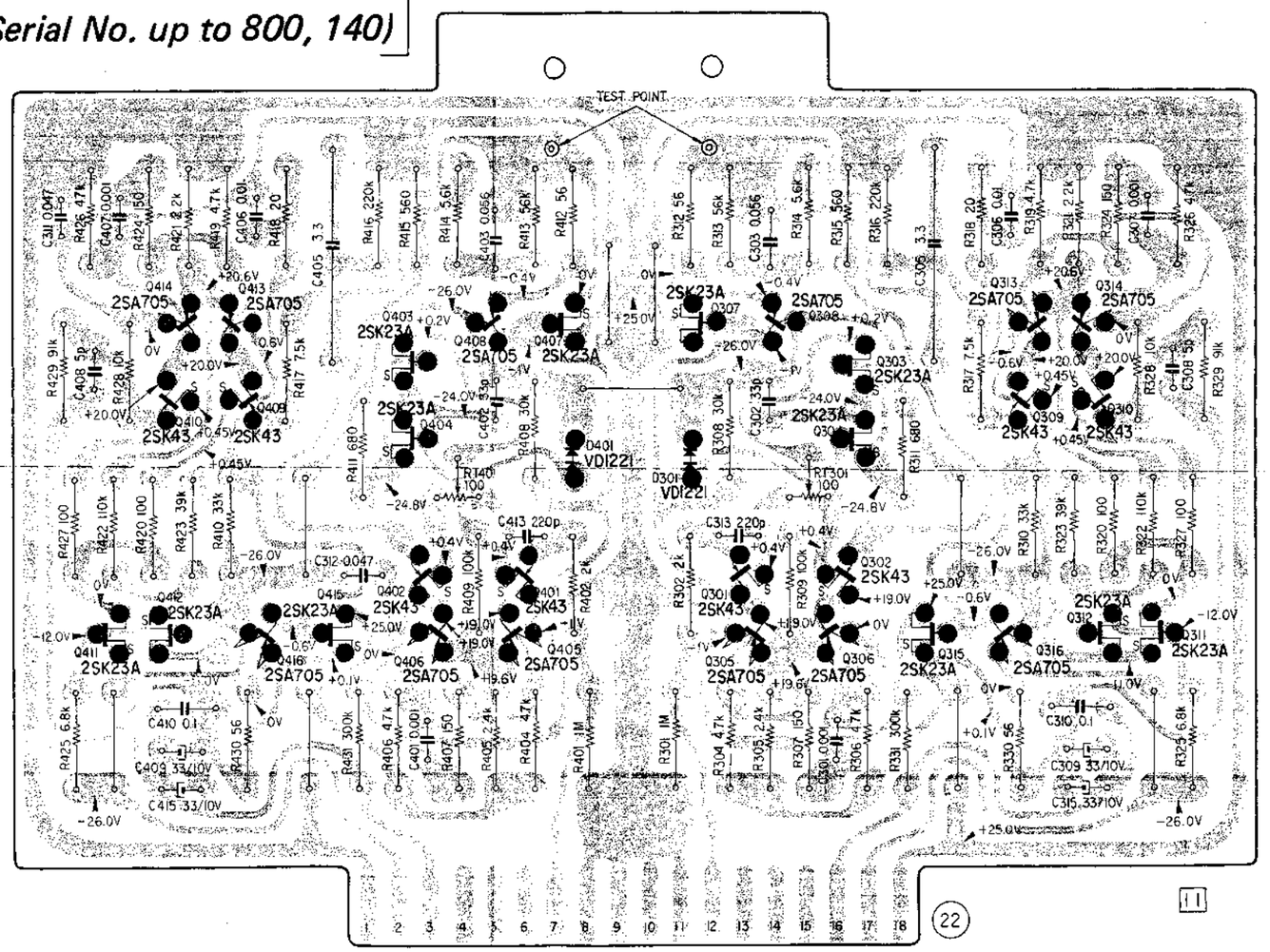
2SA705 2SK23A



2SK43 VD-1221




*USA Model*
*(Serial No. up to 800, 140)*




| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q414 | Q413 | | Q403 | Q408 | Q407 | | Q307 | Q308 | | | Q313 | Q314 | | | | |
| | Q410 | Q409 | | Q404 | | | | | Q304 | Q303 | | Q309 | Q310 | | | | |
| | | | | Q402 | Q401 | | | Q301 | | Q302 | | | | | | | |
| Q411 | Q412 | | Q416 Q415 | Q406 | Q405 | | | Q305 | | Q306 | Q315 | Q316 | Q312 | | Q311 | | |

**MEMO**

F F

*USA Model*
*(Serial No. 800, 141 and later)*
*AEP Model*

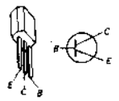
## 4-13. MOUNTING DIAGRAM – F Board (Equalizer) –

*– Conductor Side –*

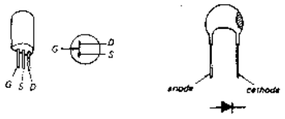
F Circuit Board

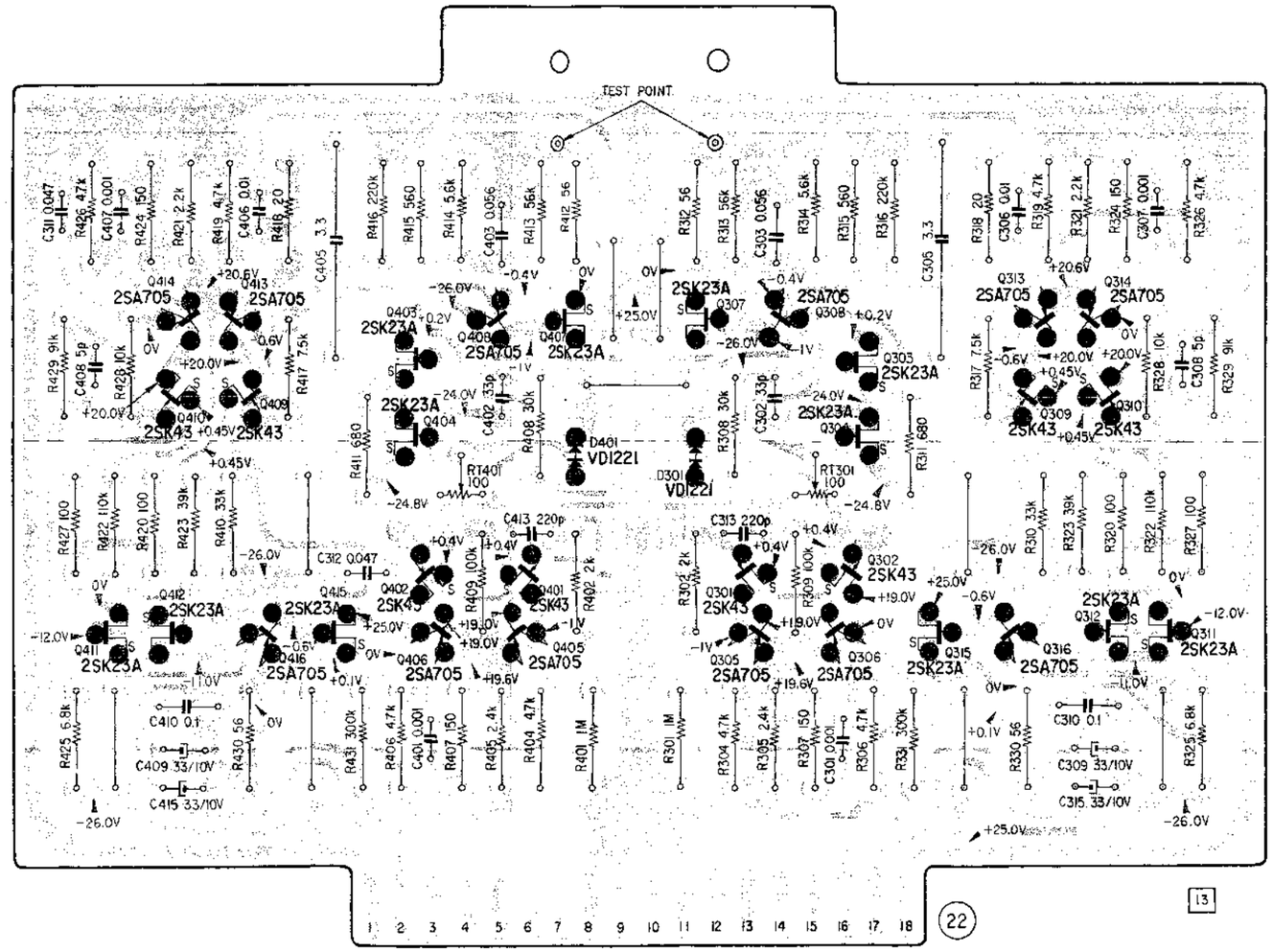
| Connector No. | Terminal No. of Connector | Color of Lead Wire | | Connected to | | |
|---|---|---|---|---|---|---|
| | | Conductor/ Sheath | Tube | Circuit Board | Connector No. | Terminal No. of Connector |
| (22) | 1 | BRN | | G | R110 | |
| | 2 | | | | | |
| | 3 | RED | RED | B | 6 | 1 |
| | 4 | | | | | |
| | 5 | | | | | |
| | 6 | | | | | |
| | 7 | RED | YEL | G | 26 | 10 |
| | 8 | SHIELD | YEL | G | 26 | 6 |
| | 9 | BLK | | A | 2 | 4 |
| | 10 | SHIELD | RED | | | |
| | 11 | | | | | |
| | 12 | WHT | YEL | G | 26 | 4 |
| | 13 | | | | | |
| | 14 | | | | | |
| | 15 | | | | | |
| | 16 | WHT | RED | B | 5 | 6 |
| | 17 | WHT/BRN | | D | 20 | 2 |
| | | WHT/BRN | | H | 28 | 17 |
| | 18 | BRN | | D | 20 | 1 |
| | | BRN | | H | 28 | 18 |

2SA705 2SK23A



2SK43 VD1221

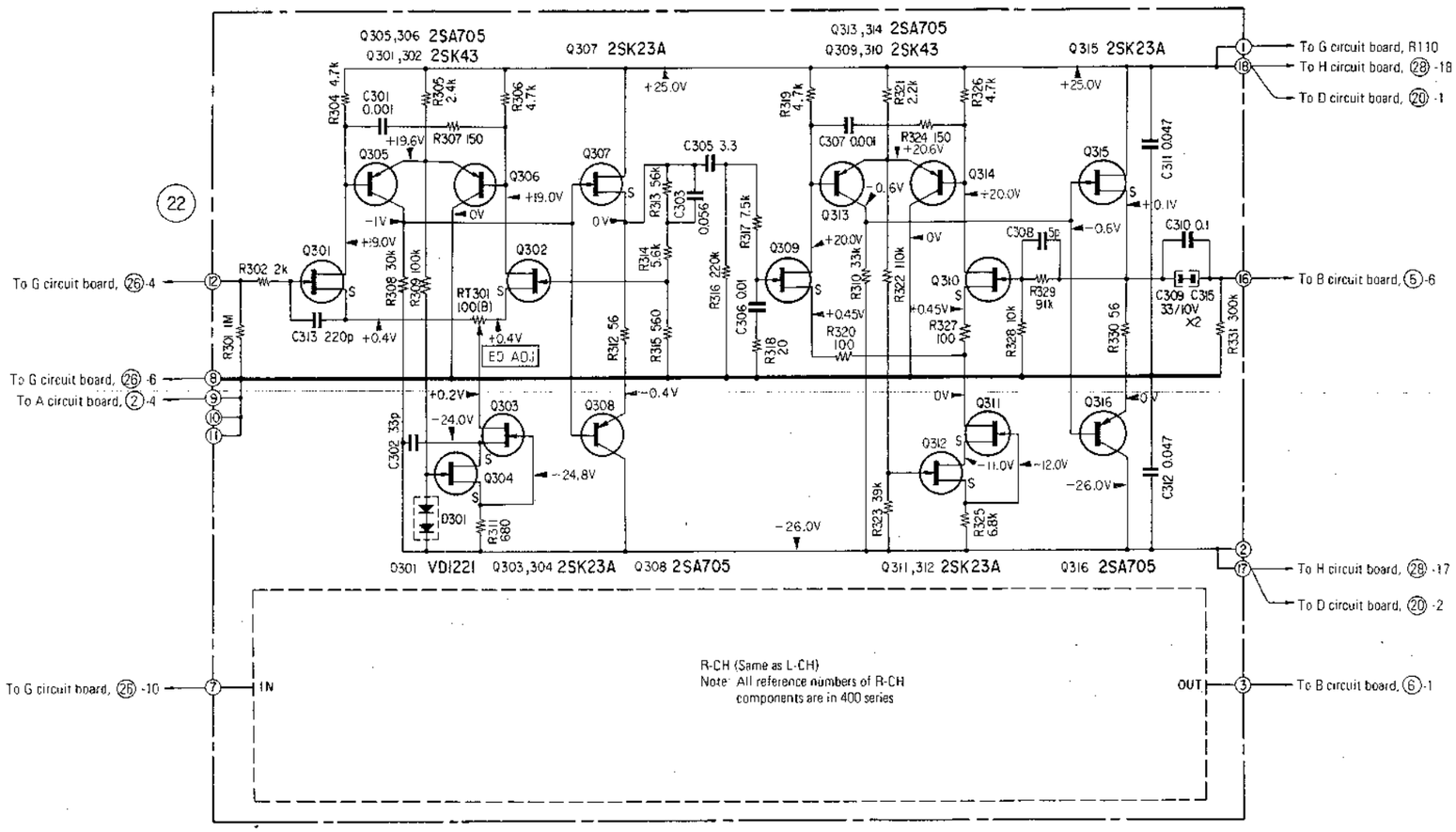



| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q414 | Q413 | | Q403 | Q408 | Q407 | | Q307 | Q308 | | | Q313 | Q314 | | |
| | Q410 | Q409 | | Q404 | | | | | Q304 | Q303 | | Q309 | Q310 | | |
| | | | | Q402 | Q401 | | | Q301 | | Q302 | | | | | |
| Q411 | Q412 | | Q416 Q415 | Q406 | Q405 | | | Q305 | | Q306 | Q315 | Q316 | Q312 | | Q311 |

## 4-14. SCHEMATIC DIAGRAM – F Section (Equalizer) –

F F




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

## 4-15. MOUNTING DIAGRAM – G Board (Phono Head Amp) –

*– Conductor Side –*

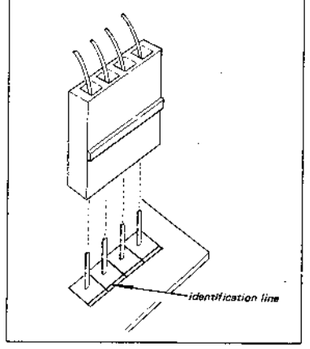
G Circuit Board

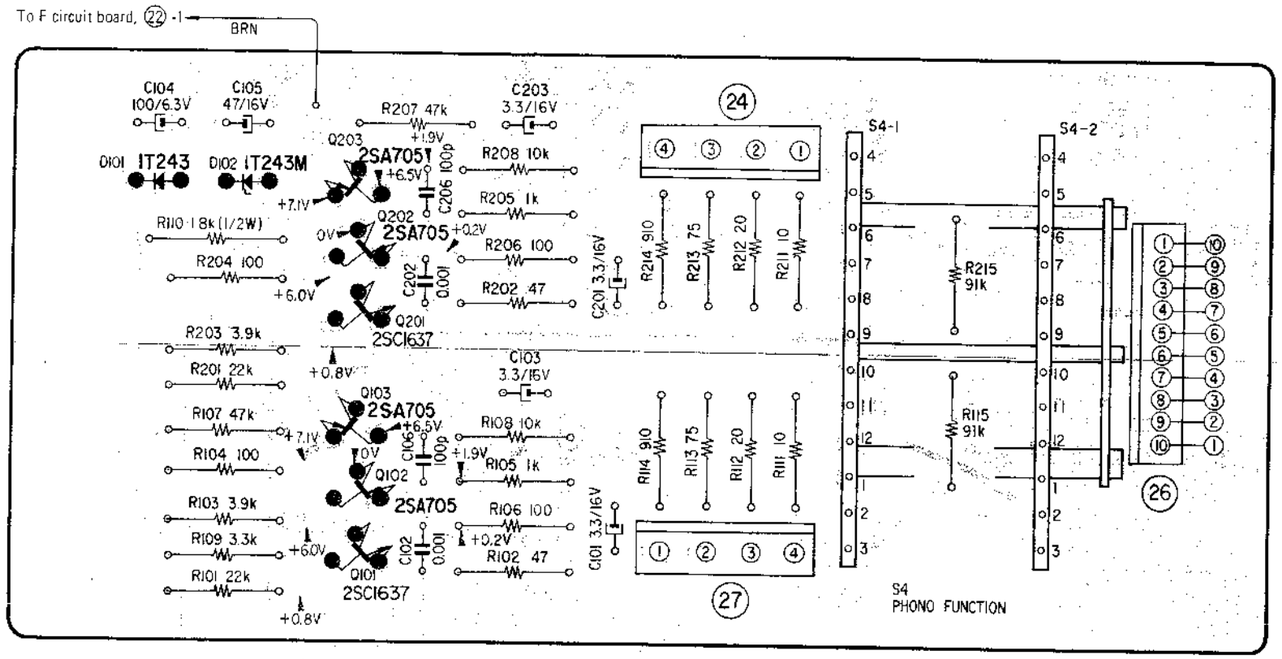
| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductor's Sheath | Color of Lead Wire: Tube | Connected to: Circuit Board | Connected to: Connector No. | Connected to: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| (24) | 1 | WHT/GRN | | ●S3 | | (7) |
| | 2 | WHT/BLU | | ●S3 | | (8) |
| | 3 | WHT/VLT | | ●S3 | | (9) |
| | 4 | WHT/GRY | | ●S3 | | (10) |
| (28) | 1 | RED | YEL | F | 22 | 7 |
| | 2 | WHT/RED | | K | 36 | 8 |
| | 3 | WHT/YEL | | K | 36 | 5 |
| | 4 | WHT/ORG | | K | 36 | 1 |
| | 5 | SHIELD | YEL | F | 22 | 8 |
| | 6 | BLK | | K | 36 | 6 |
| | 7 | WHT | YEL | F | 22 | 12 |
| | 8 | RED | | K | 36 | 7 |
| | 9 | YEL | | K | 36 | 3 |
| | 10 | ORG | | K | 36 | 2 |
| (27) | 1 | GRY | | ●S3 | | (4) |
| | 2 | VLT | | ●S3 | | (3) |
| | 3 | BLU | | ●S3 | | (2) |
| | 4 | GRN | | ●S3 | | (1) |

● S3 shows reference number of switch.

**CAUTION**

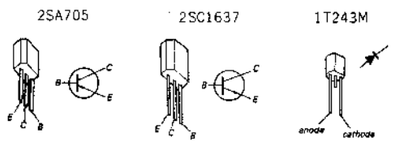
When reinstalling the connector, be careful to the direction of connector.



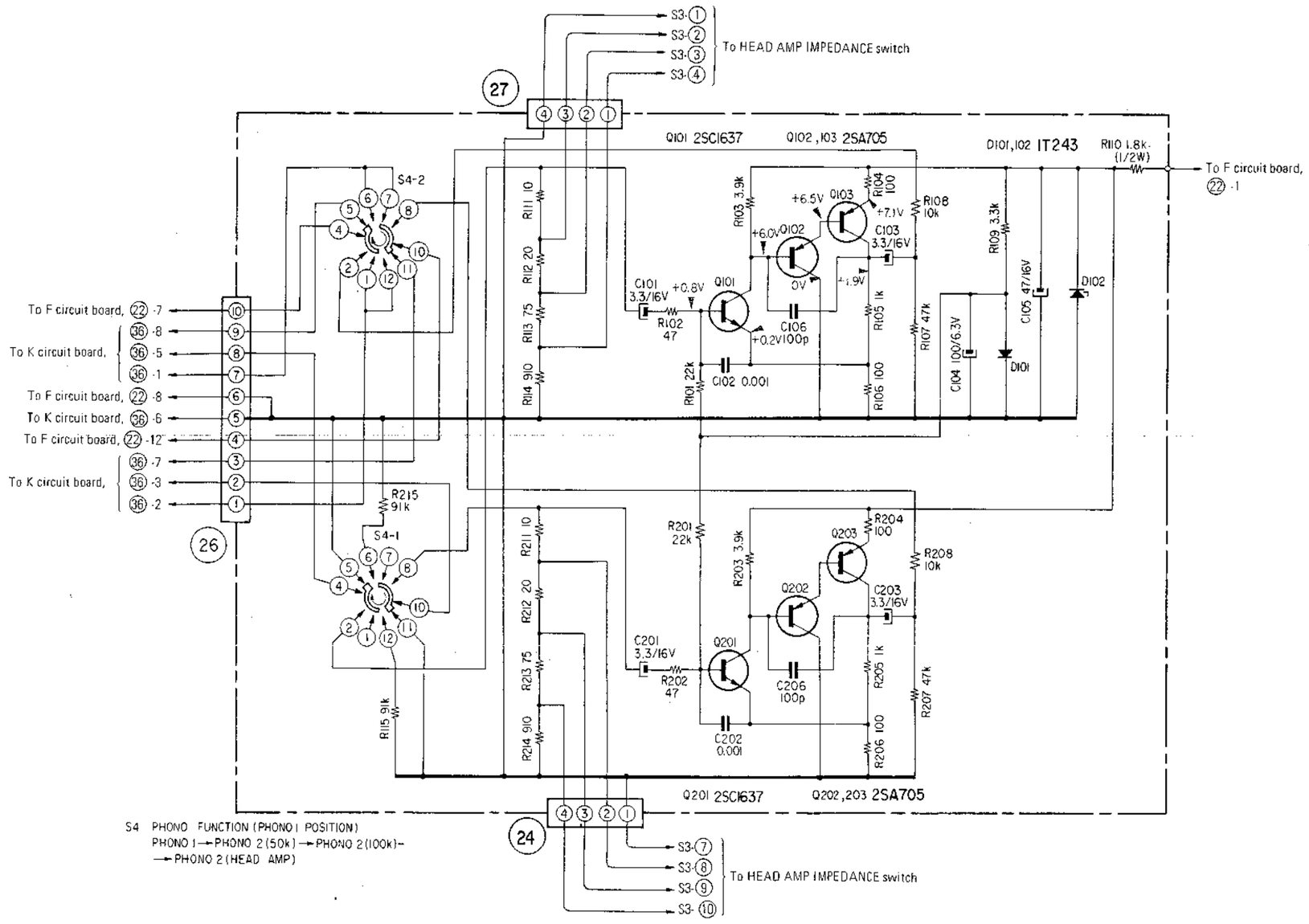




11

2SA705 2SC1637 1T243M



## 4-16. SCHEMATIC DIAGRAM — G Section (Phono Head Amp) —




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

# H H

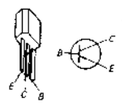
## 4-17. MOUNTING DIAGRAM – H Board (Tone Control Amp) –

*– Conductor Side –*

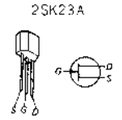
H Circuit Board

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductors Sheath | Color of Lead Wire: Tube | To: Circuit Board | To: Connector No. | To: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| ㉘ | 1 | GRY | | D | 20 | 27 |
| | 2 | WHT/BRN | | D | 20 | 29 |
| | 3 | RED | | D | 20 | 36 |
| | 4 | BLK | | D | 20 | 43 |
| | 5 | BLK | | D | 20 | 3 |
| | 6 | WHT/RED | | D | 20 | 33 |
| | 7 | WHT/GRY | | D | 20 | 25 |
| | 8 | WHT/BLK | | D | 20 | 31 |
| | 9 | RED | BLU | D | 20 | 23 |
| | 10 | WHT | BLU | D | 20 | 21 |
| | 11 | YEL | | B | 8 | 4 |
| | 12 | WHT/YEL | | B | 8 | 2 |
| | 13 | RED | ORG | B | 4 | 2 |
| | 14 | WHT | ORG | B | 4 | 4 |
| | 15 | BLK | | H | 28 | 5 |
| | 16 | BLK | | J | 31 | 4 |
| | | | | | | ⑤-2 |
| | 17 | WHT/BRN | | F | 22 | 17 |
| | | WHT/BRN | | I | 29 | 17 |
| | 18 | BRN | | F | 22 | 18 |
| | | BRN | | I | 29 | 18 |

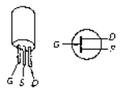
2SA705

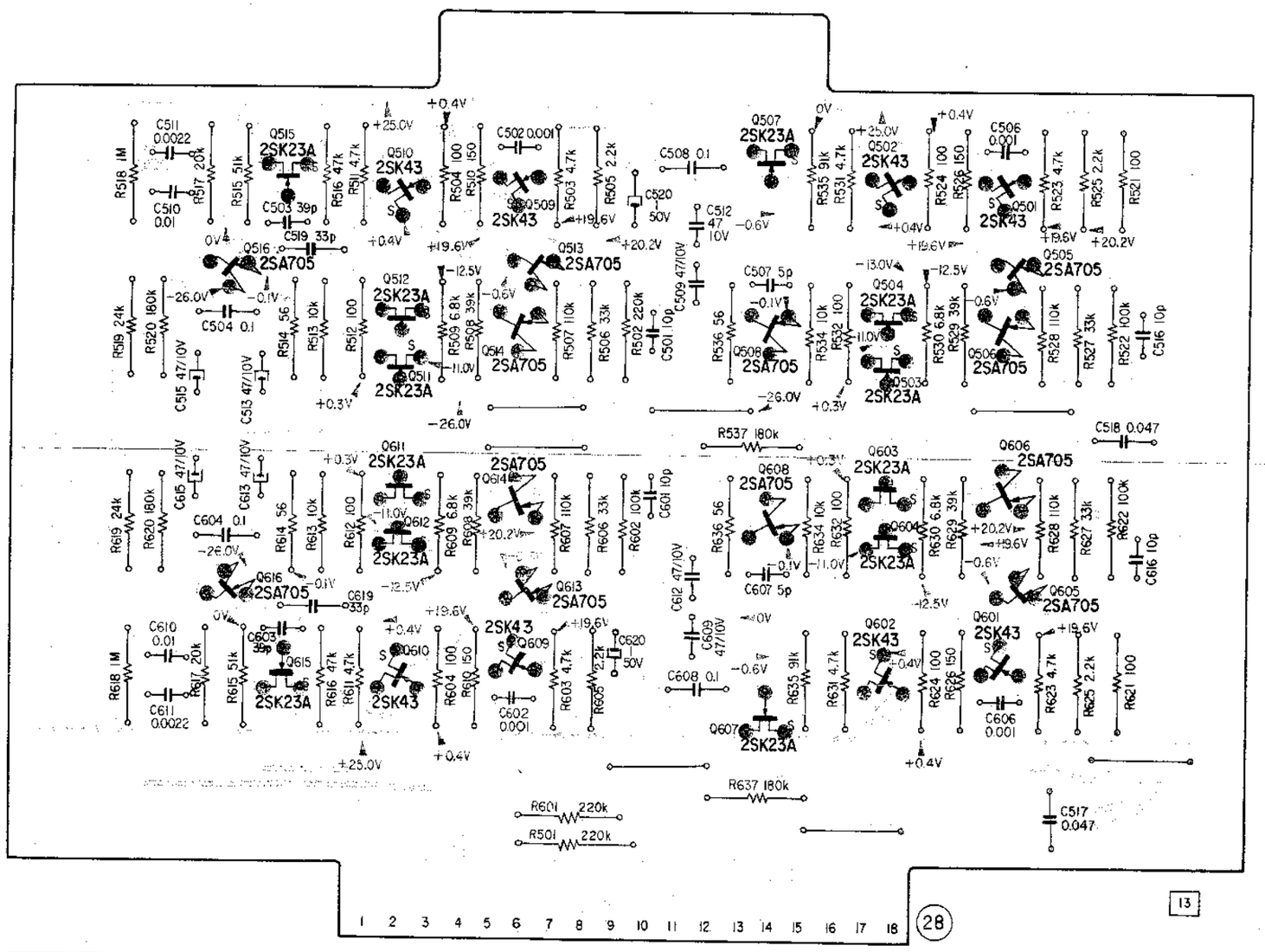


2SK23A



2SK43

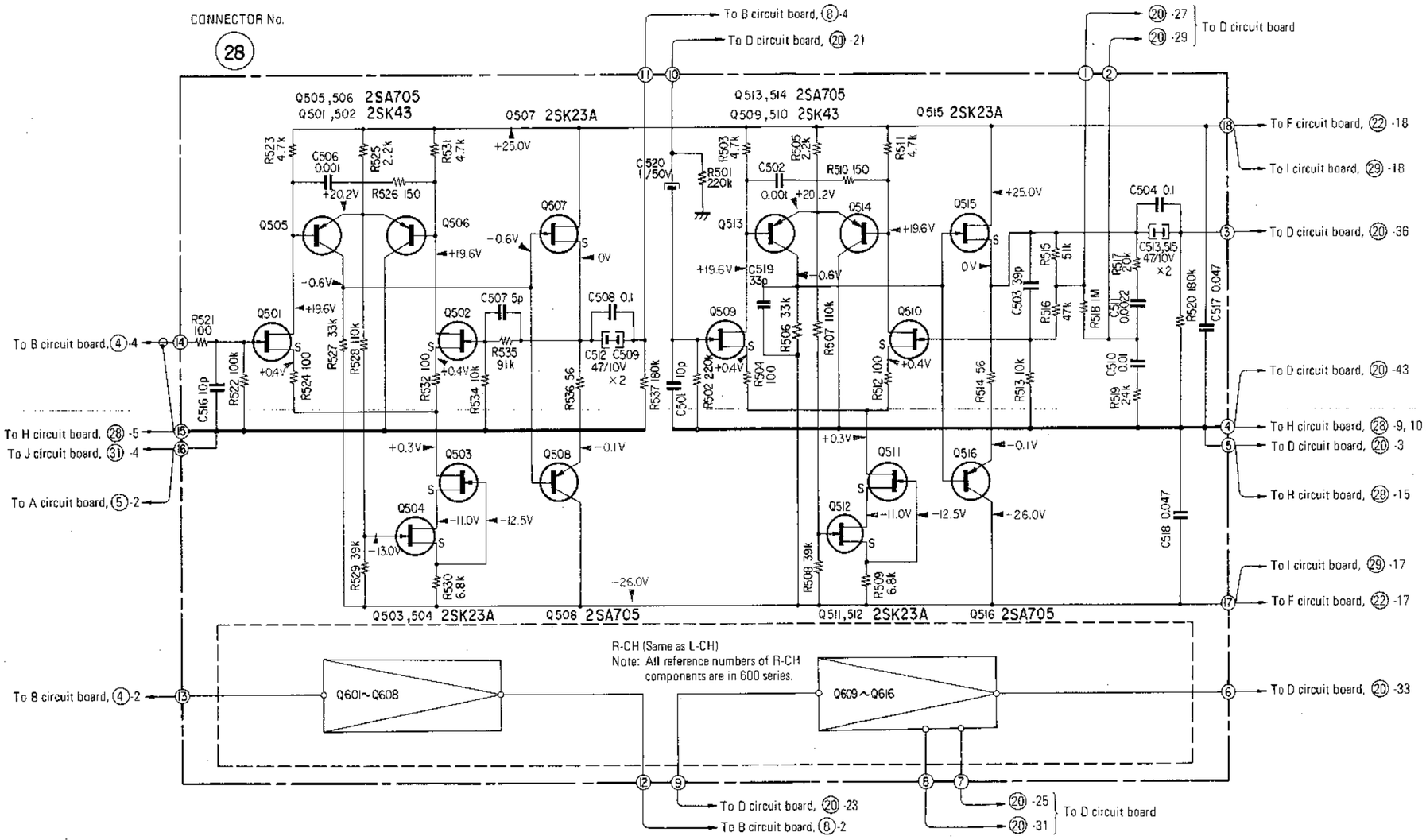





| | | | | | |
|---|---|---|---|---|---|
| Q515 | Q510 | Q509 | Q507 | Q502 | Q501 |
| Q516 | Q512 | Q513 | | Q504 | Q505 |
| | Q511 | Q514 | Q508 | Q503 | Q506 |
| | Q611 | Q614 | Q608 | Q603 | Q606 |
| Q616 | Q612 | Q613 | | Q604 | Q605 |
| Q615 | Q610 | Q609 | Q607 | Q602 | Q601 |

## 4-18. SCHEMATIC DIAGRAM – H Section (Tone Control Amp) –

H H




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in $\mu$F except as indicated with p, which means $\mu\mu$F.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

## 4-19. MOUNTING DIAGRAM – I Board (Peak Program Meter) –

*– Conductor Side –*

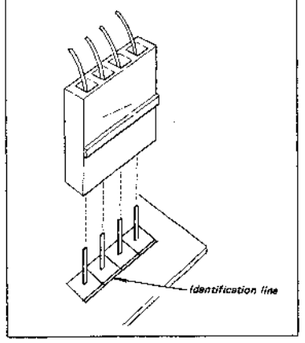
I Circuit Board

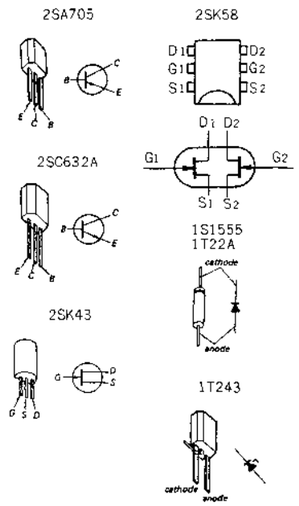
| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductors Sheath | Tube | To: Circuit Board | Connector No. | Terminal No. of Connector |
|---|---|---|---|---|---|---|
| (29) | 1 | WHT/RED | | L | 37 | 2 |
| | 2 | RED | | L | 37 | 1 |
| | 3 | WHT/ORG | | ●S27 | | ③ |
| | 4 | RED | GRN | ●S25 | | ⑤ |
| | 5 | WHT/GRY | | ●S27 | | ⑤ |
| | 6 | —— | | | | |
| | 7 | WHT/GRN | | ●S27 | | ② |
| | 8 | GRN | | ●S27 | | ⑧ |
| | 9 | —— | | | | |
| | 10 | GRY | | ●S27 | | ⑪ |
| | 11 | —— | | | | |
| | 12 | ORG | | ●S27 | | ⑨ |
| | 13 | VLT | | D | 20 | 6 |
| | 14 | BLK | | J | 31 | 5 |
| | | BLK | | ●S27 | | ⑥ |
| | 15 | WHT | GRN | ●S25 | | ⑪ |
| | 16 | SHIELD | GRN | | | |
| | 17 | WHT/BRN | | H | 28 | 17 |
| | | WHT/BRN | | J | 31 | 17 |
| | 18 | BRN | | H | 28 | 18 |
| | | BRN | | J | 31 | 18 |
| (30) | 1 | GRN | TO PEAK PROGRAM METER | | | |
| | 2 | RED | | | | |
| | 3 | GRY | | | | |
| | 4 | GRY | | | | |
| | 5 | BLU | | | | |
| | 6 | WHT | | | | |

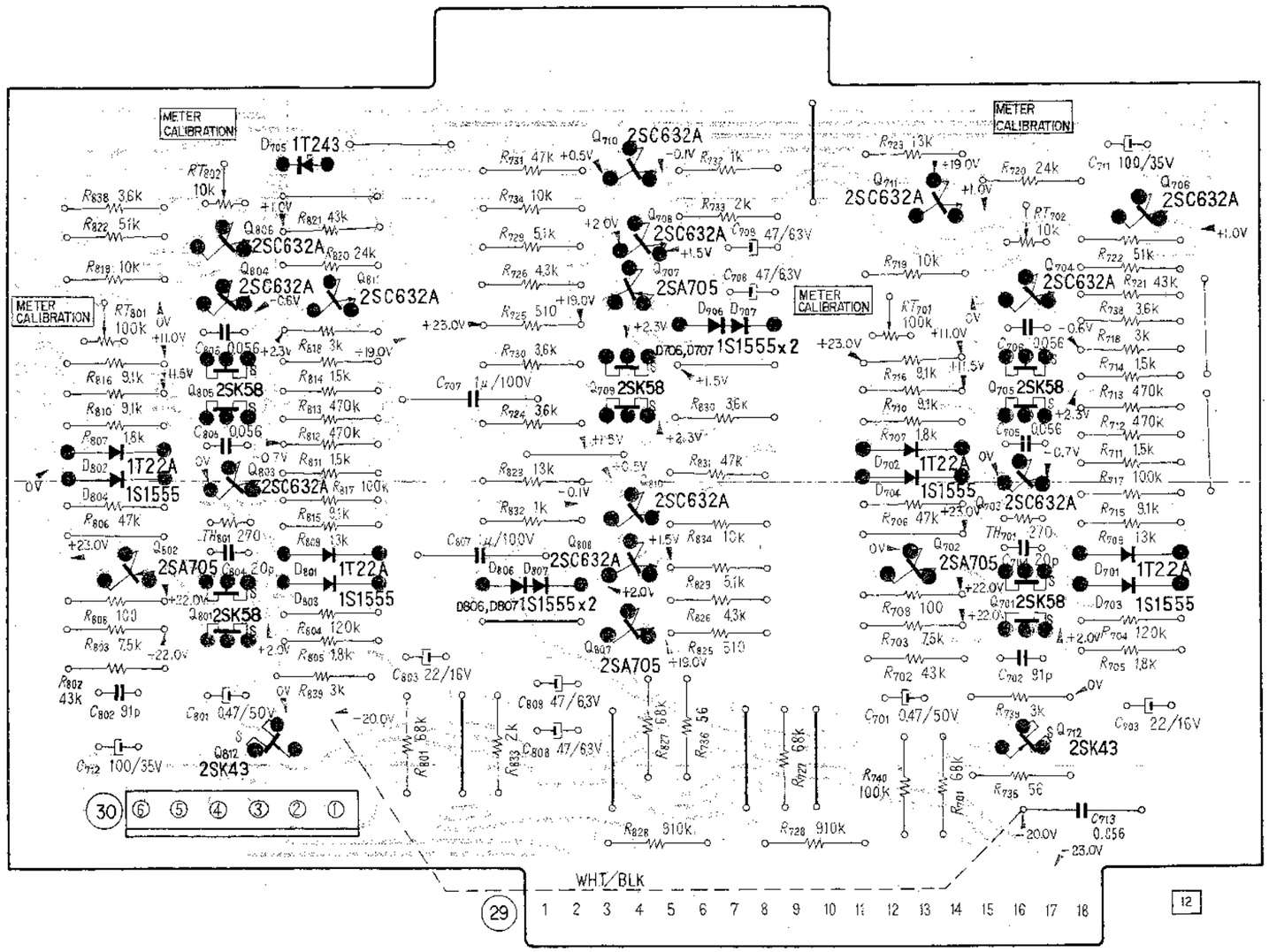
● S25 and S27 show reference number of switch.

**CAUTION**

When reinstalling the connector, be careful to the direction of connector.

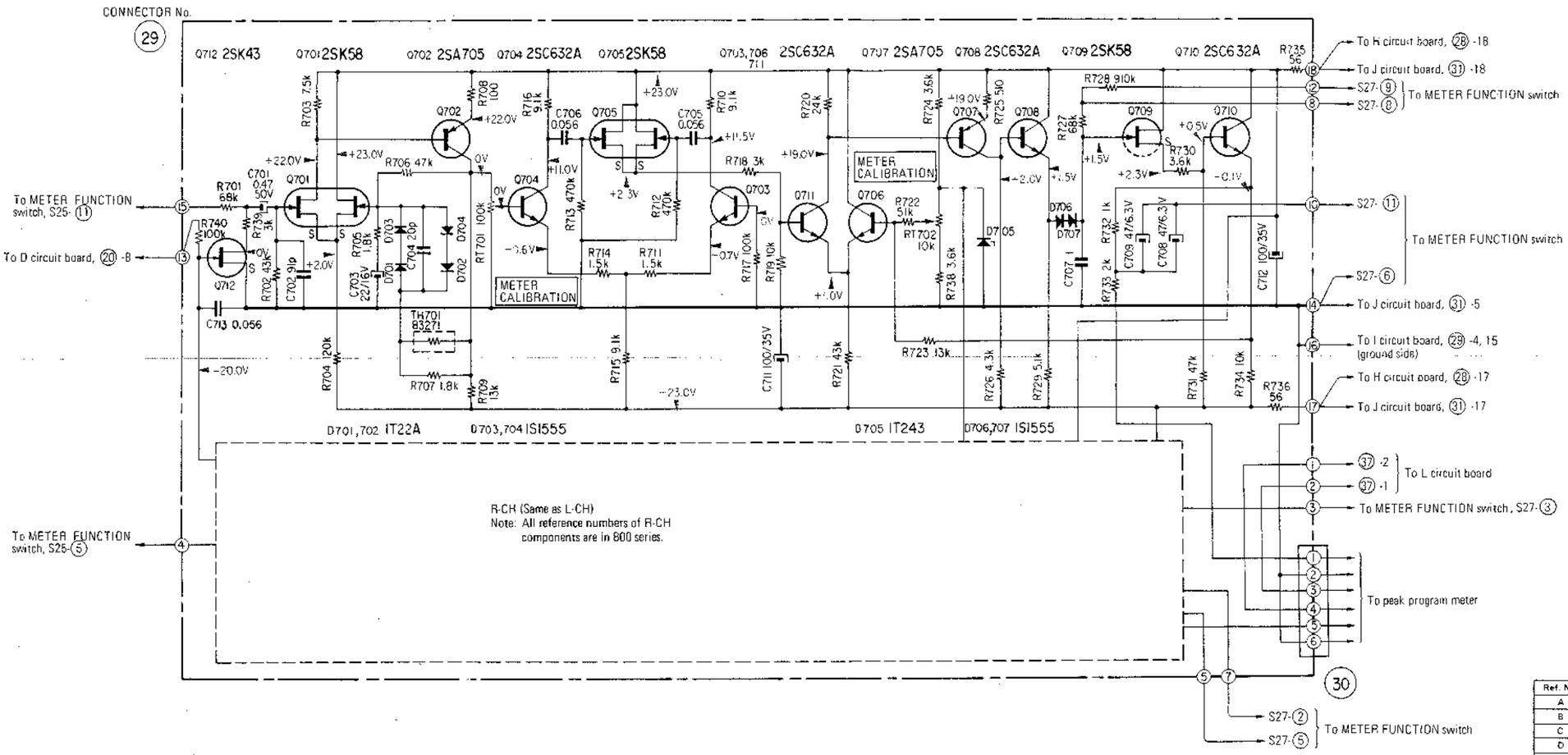



| | | | | | | |
|---|---|---|---|---|---|---|
| | Q806 D705 | | Q710 | D706 | Q711 | Q706 |
| | Q804 | | Q708 | | | |
| Q805 | | | Q707 | | Q704 | |
| D802 | Q803 D801 | | Q709 | | D702 Q705 | |
| D804 Q801 | D803 | D806 | Q810 | | D704 Q703 | D701 |
| Q802 | | | Q808 | | Q702 Q701 | D703 |
| | Q812 | | Q807 | | Q712 | |

## 4-20. SCHEMATIC DIAGRAM – I Section (Peak Program Meter) –




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

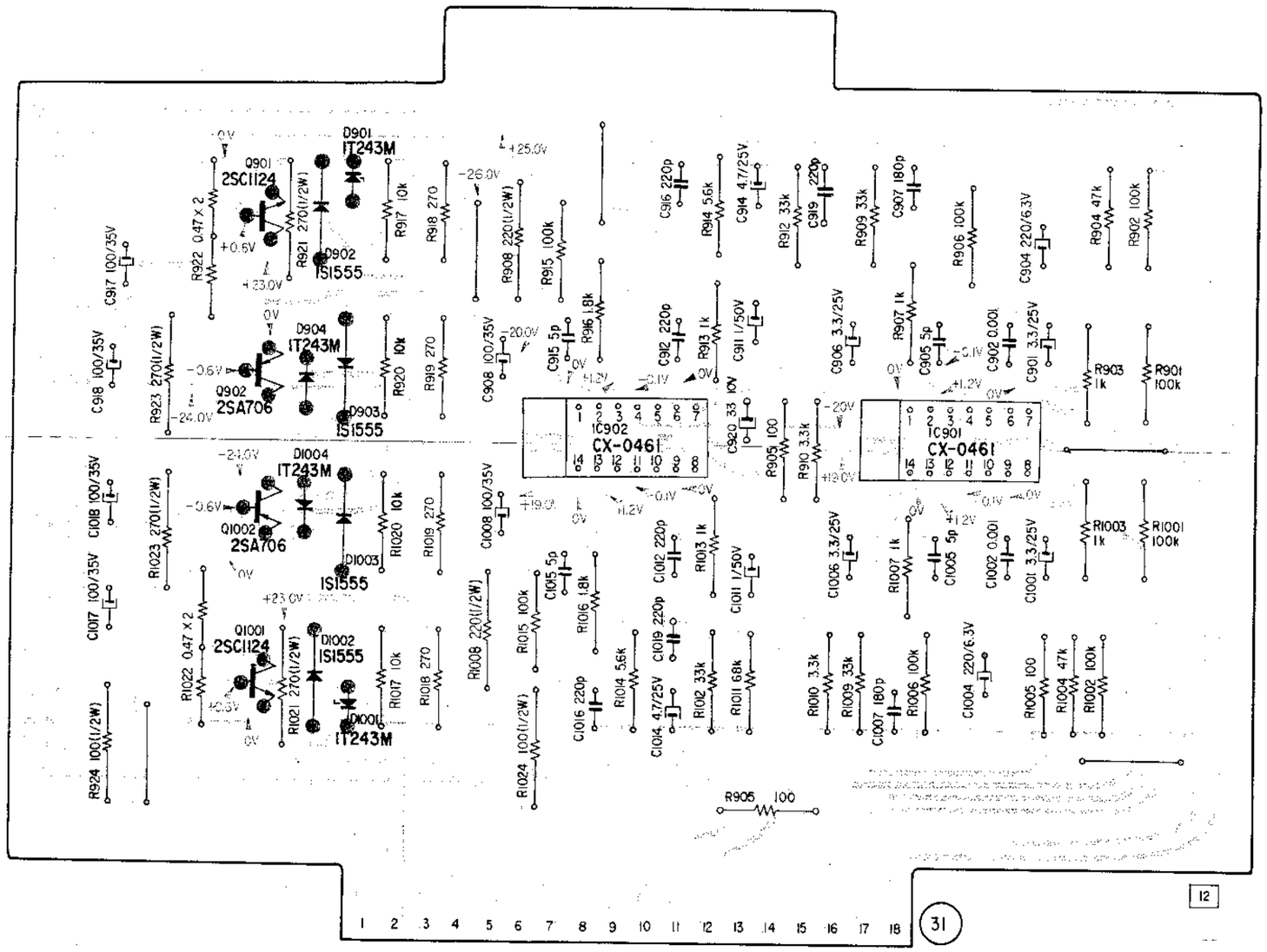
J J

## 4-21. MOUNTING DIAGRAM – J Board (MIC/Headphone Amp) –

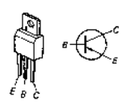
*– Conductor Side –*

J Circuit Board

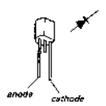
| Connector No. | Terminal No. of Connector | Color of Lead Wire | | To | | |
|---|---|---|---|---|---|---|
| | | Conductors Sheath | Tube | Circuit Board | Connector No. | Terminal No. of Connector |
| (31) | 1 | WHT | YEL | D | 20 | 15 |
| | 2 | BLK | | D | 20 | 6 |
| | 3 | BLK | | L | 38 | 2 |
| | 4 | BLK | | H | 28 | 16 |
| | 5 | BLK | | I | 29 | 14 |
| | 6 | RED | YEL | D | 20 | 13 |
| | 7 | RED | GRN | D | 20 | 10 |
| | 8 | WHT | GRN | D | 20 | 14 |
| | 9 | GRY | | E | 21 | 17 |
| | 10 | VLT | | E | 21 | 9 |
| | 11 | WHT/VLT | | E | 21 | 8 |
| | 12 | WHT/GRY | | E | 21 | 18 |
| | 13 | RED | ORG | E | 21 | 6 |
| | 14 | WHT | ORG | E | 21 | 5 |
| | 15 | BLK | | A | 3 | 3 |
| | 16 | SHIELD | ORG | E | 21 | 4 |
| | | BLK | | E | 21 | 10 |
| | 17 | WHT/BRN | | I | 29 | 17 |
| | | WHT/BRN | | L | 38 | 3 |
| | 18 | BRN | | I | 29 | 18 |
| | | BRN | | L | 38 | 1 |



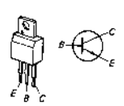

2SA706



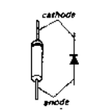

1T243M



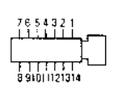

2SC1124




1S1555

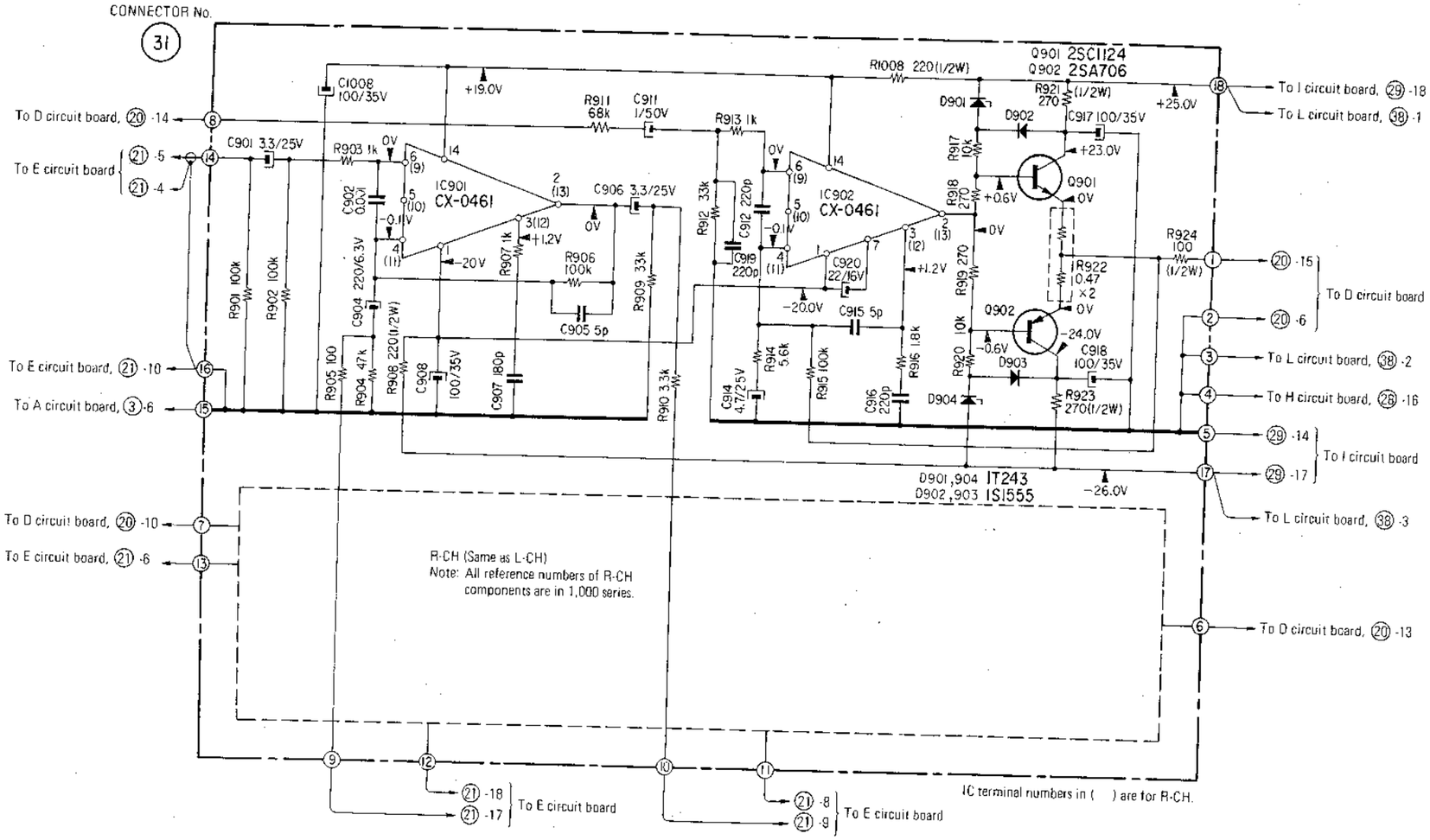



CX-0461




(Top view)

## 4-22. SCHEMATIC DIAGRAM – J Section (MIC/Headphone Amp) –




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 26 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

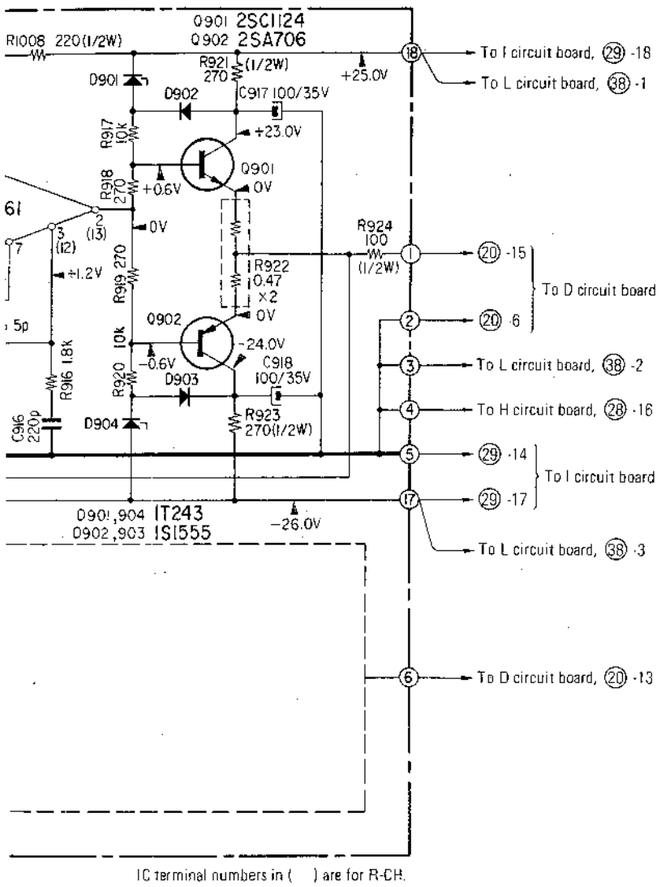
All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

J J




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
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| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in $\mu$F except as indicated with p, which means $\mu\mu$F.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.





## MEMO

## 4-23. MOUNTING DIAGRAM – K Board (Phono Jack) –

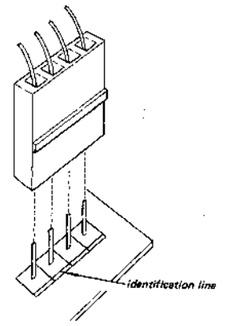
*– Conductor Side –*

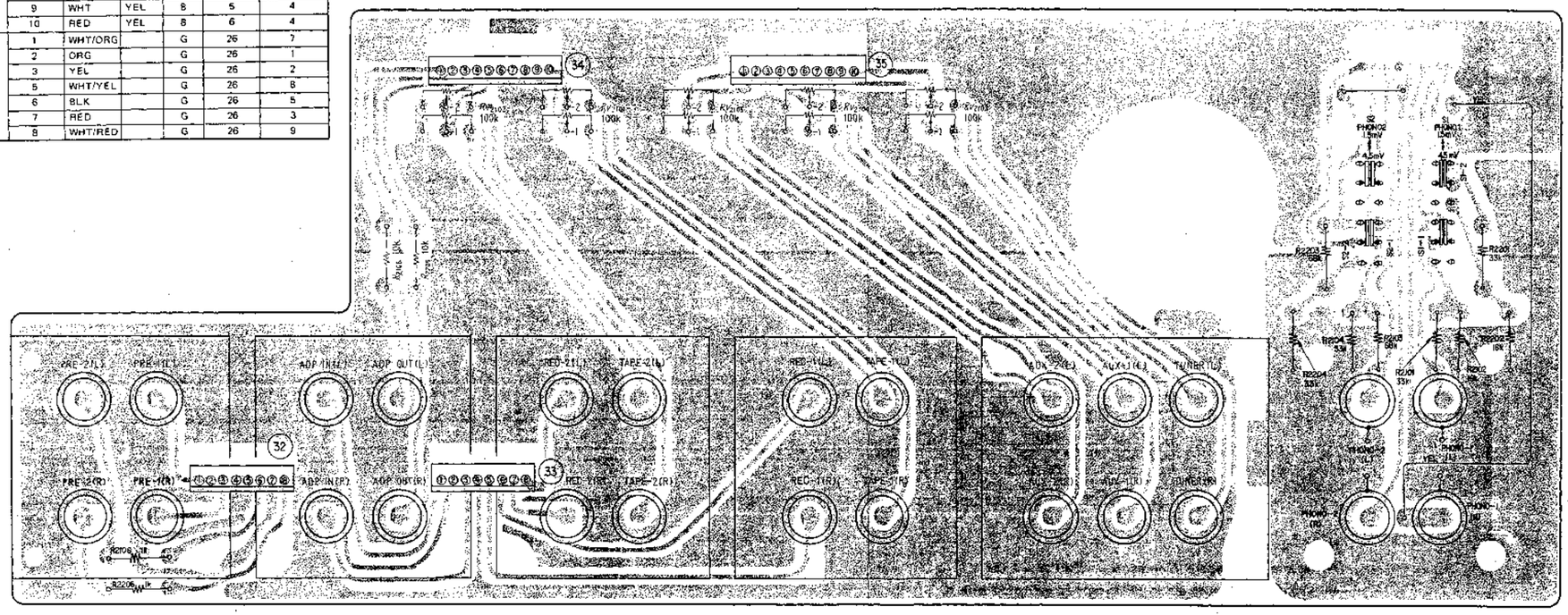
K Circuit Board

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductor's Sheath | Color of Lead Wire: Tube | Connected to: Circuit Board | Connected to: Connector No. | Connected to: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| ㉜ | 1 | WHT | ORG | D | 20 | 5 |
| | 2 | SHIELD | ORG | | | |
| | 3 | RED | ORG | D | 20 | 9 |
| | 6 | RED | CLEAR | D | 20 | 17 |
| | 7 | SHIELD | CLEAR | | | |
| | 8 | WHT | CLEAR | D | 20 | 11 |
| ㉝ | 1 | WHT | ORG | C | 15 | 3 |
| | 2 | SHIELD | ORG | | | |
| | 3 | RED | ORG | C | 15 | 6 |
| | 4 | BLK | | B | 9 | 3 |
| | 5 | WHT/GRN | | C | 13 | 1 |
| | 6 | GRN | | C | 13 | 5 |
| | 7 | WHT/VLT | | C | 13 | 4 |
| | 8 | VLT | | C | 12 | 4 |
| ㉞ | 1 | WHT | CLEAR | C | 15 | 2 |
| | 2 | SHIELD | CLEAR | | | |
| | 3 | RED | CLEAR | C | 15 | 8 |
| | 4 | RED | GRN | C | 14 | 10 |
| | 5 | WHT | GRN | C | 14 | 5 |
| | 6 | SHIELD | GRN | | | |
| | 8 | SHIELD | YEL | | | |
| | 9 | WHT | YEL | C | 14 | 2 |
| | 10 | RED | YEL | C | 14 | 6 |
| ㉟ | 1 | RED | GRN | C | 10 | 5 |
| | 2 | WHT | GRN | C | 10 | 3 |
| | 3 | SHIELD | GRN | | | |
| | 4 | RED | BLU | C | 10 | 6 |
| | 5 | WHT | BLU | C | 10 | 2 |
| | 6 | SHIELD | BLU | | | |
| | 8 | SHIELD | YEL | | | |
| | 9 | WHT | YEL | B | 5 | 4 |
| | 10 | RED | YEL | B | 6 | 4 |
| ㊱ | 1 | WHT/ORG | | G | 26 | 7 |
| | 2 | ORG | | G | 26 | 1 |
| | 3 | YEL | | G | 26 | 2 |
| | 5 | WHT/YEL | | G | 26 | 8 |
| | 6 | BLK | | G | 26 | 5 |
| | 7 | RED | | G | 26 | 3 |
| | 8 | WHT/RED | | G | 26 | 9 |

CAUTION

When reinstalling the connector, be careful to the direction of connector.



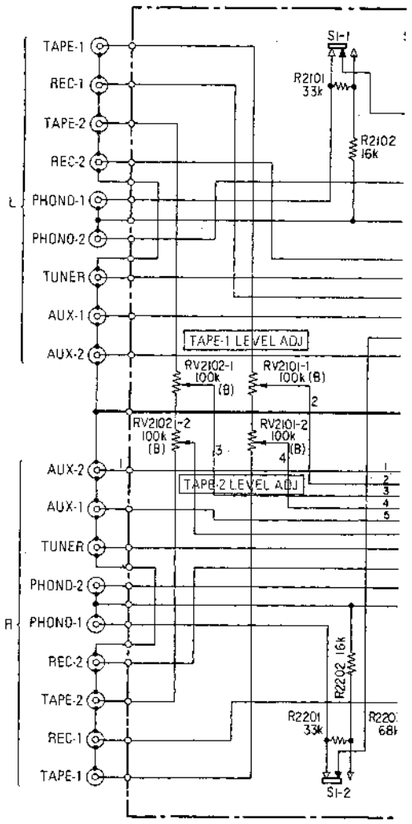





## 4-24. SCHEMATIC DIAGRAM

*– K Section (Phono Jack) –*

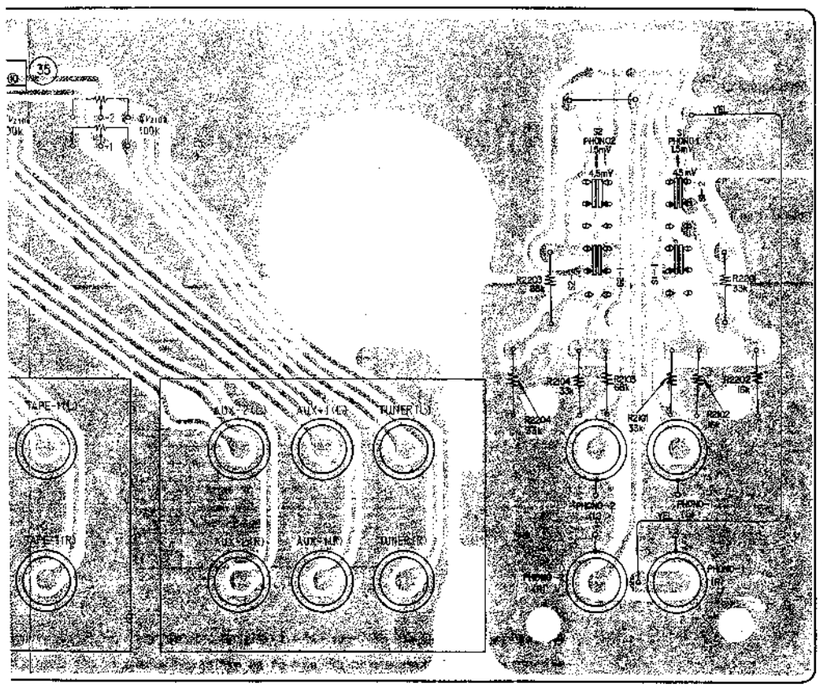
To G circuit boar

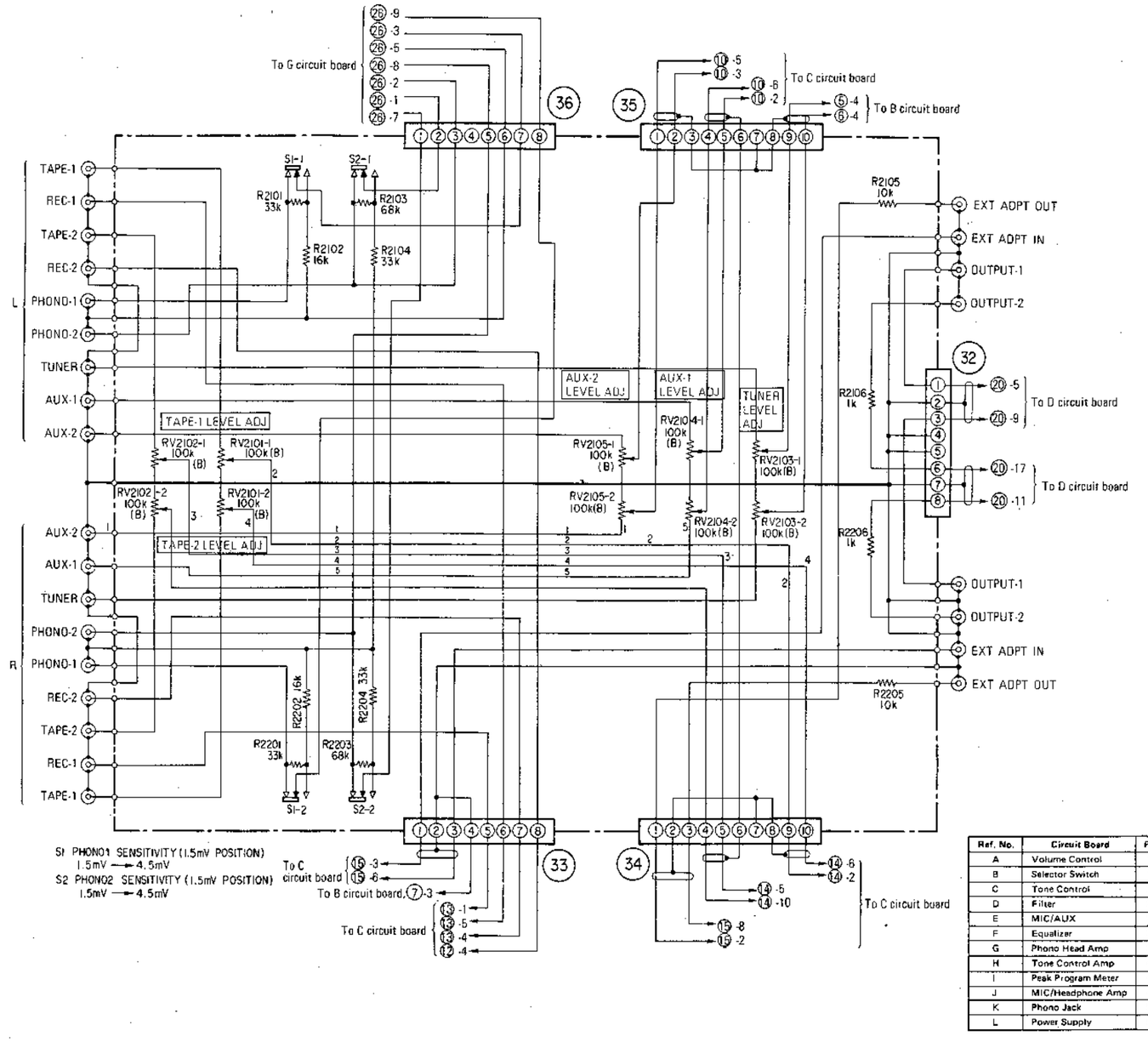


## 4-24. SCHEMATIC DIAGRAM

### – K Section (Phono Jack) –

K K




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

## 4-25. MOUNTING DIAGRAM – L Board (Power Supply) –

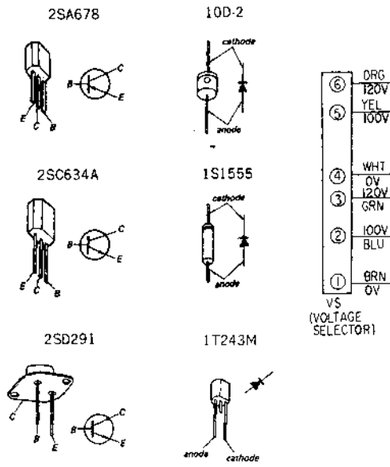
*– Conductor Side –*

**L** **L**

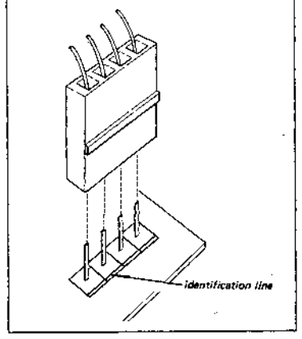
*USA Model*
*(Serial No. up to 800, 140)*

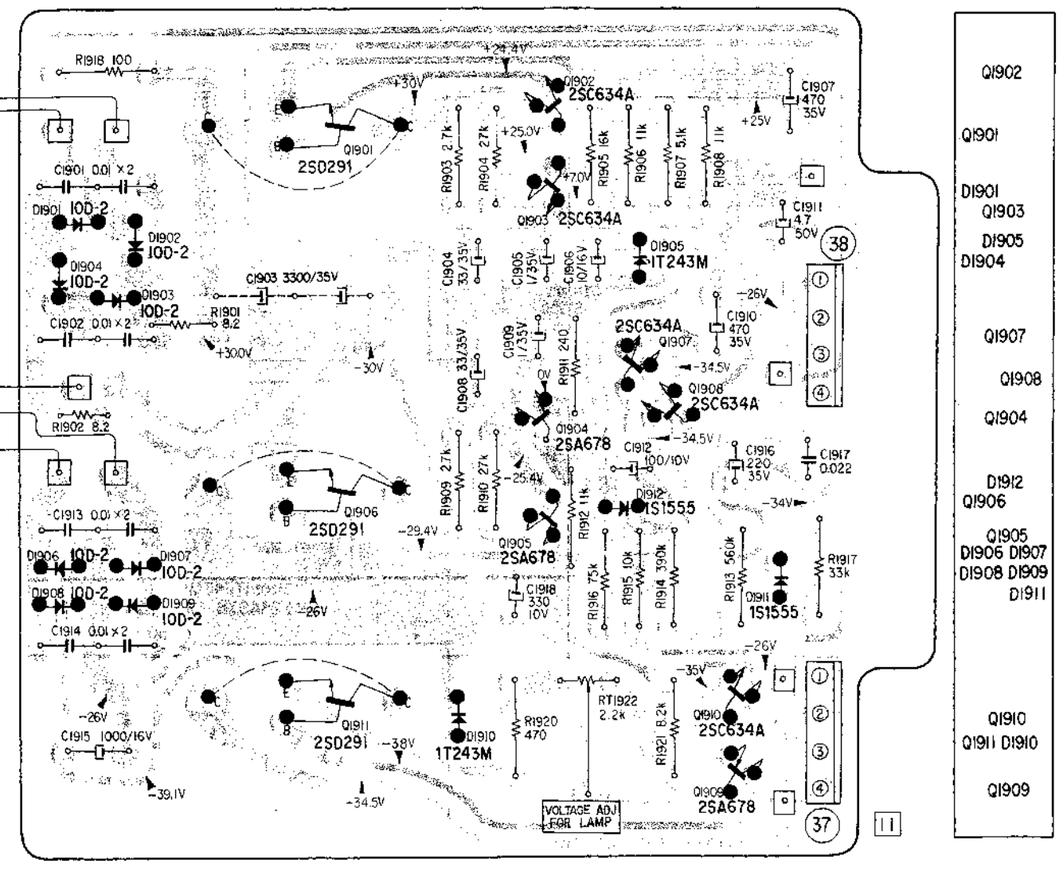
**L Circuit Board**

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductor's Sheath | Tube | Connected to: Circuit Board | Connector No. | Terminal No. of Connector |
|---|---|---|---|---|---|---|
| (37) | 1 | RED | | I | 29 | 2 |
| | 2 | WHT/RED | | I | 29 | 1 |
| | 3 | BLU | | TERMINAL STRIP | | |
| | 4 | BLU | | TERMINAL STRIP | | |
| (38) | 1 | BRN | | J | 31 | 18 |
| | 2 | BLK | | J | 31 | 3 |
| | 3 | WHT/BRN | | J | 31 | 17 |
| | 4 | WHT/BLK | | D | 20 | 7 |




**CAUTION**
When reinstalling the connector, be careful to the diraction of connector.



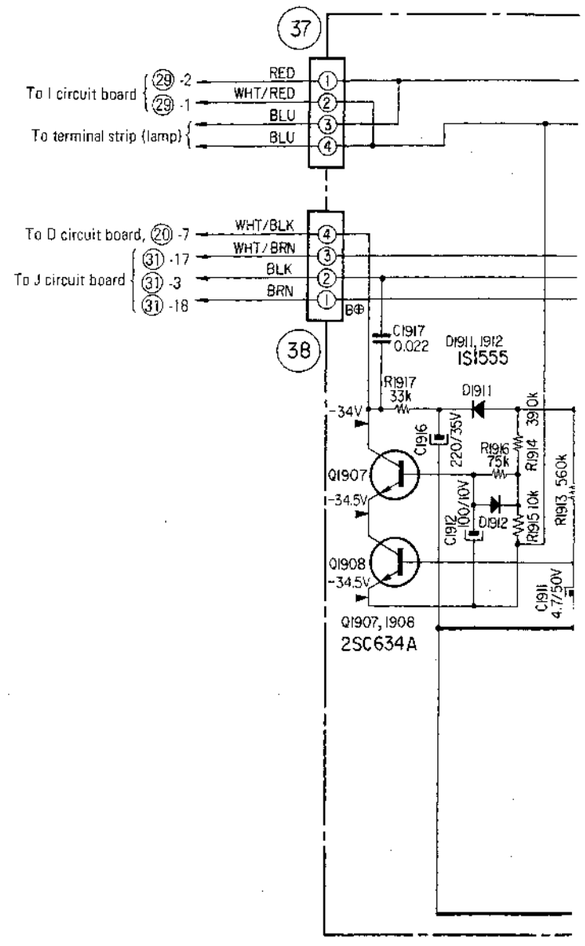




Q1902
Q1901
D1901
Q1903
D1905
D1904
Q1907
Q1908
Q1904
D1912
Q1906
Q1905
D1906 D1907
D1908 D1909
D1911
Q1910
Q1911 D1910
Q1909



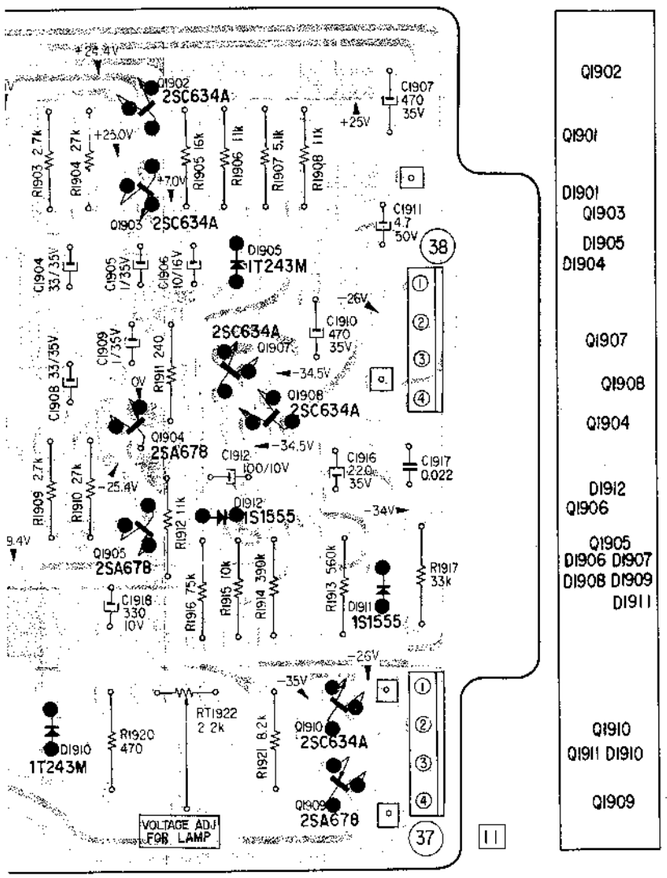
## 4-26. SCHEMATIC DIAGRAM – L Section (Power Supply) –

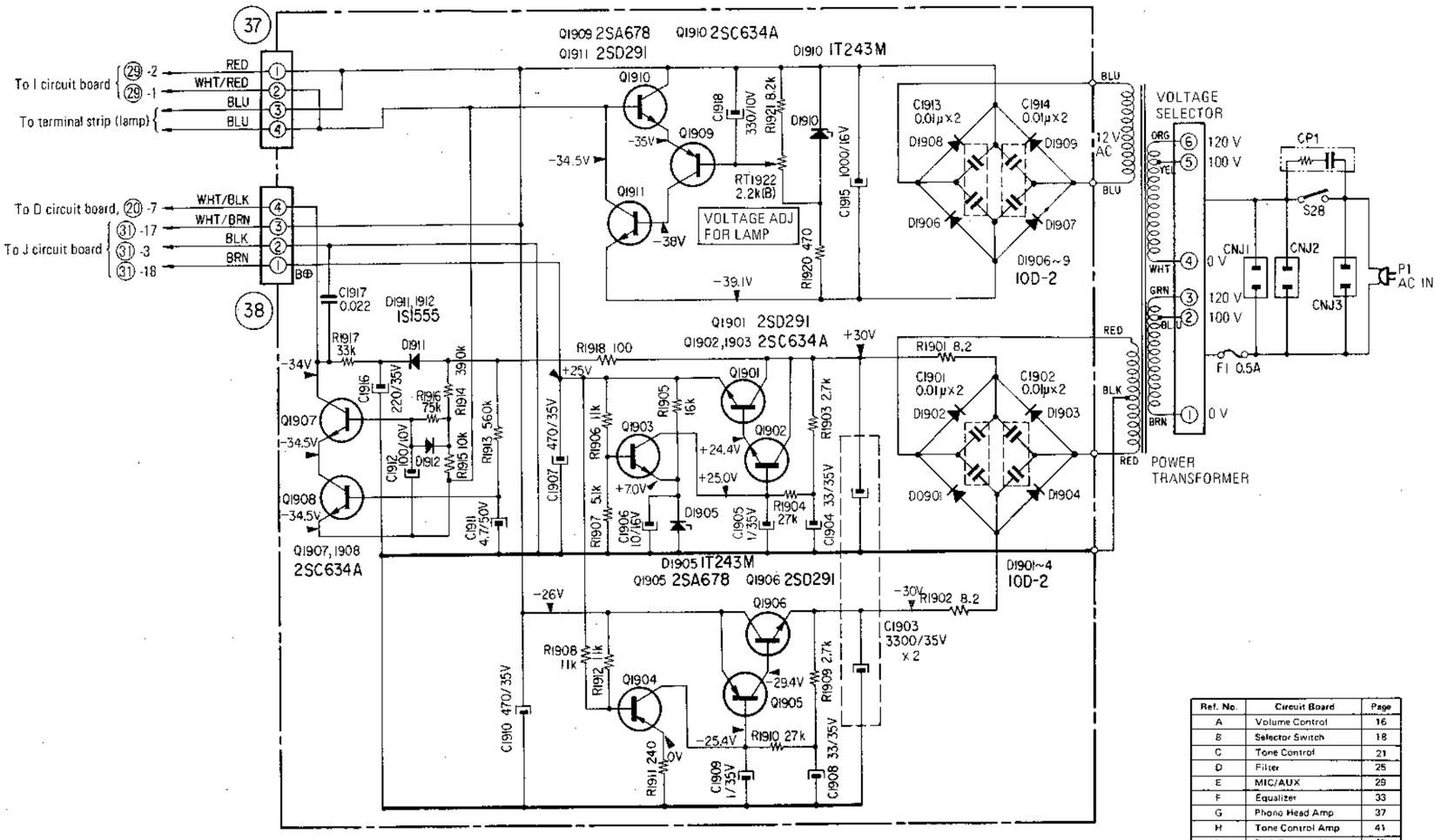
*USA M*
*(Serial*



4-26. SCHEMATIC DIAGRAM – L Section (Power Supply) –.

*USA Model*
*(Serial No. up to 800, 140)*




| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 18 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

Voltage variations may be noted because of normal production tolerances.

L

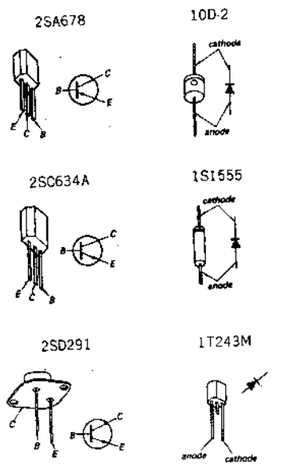
*USA Model*
*(Serial No. 800, 141 and later)*
*AEP Model*

## 4-27. MOUNTING DIAGRAM – L Board (Power Supply) –

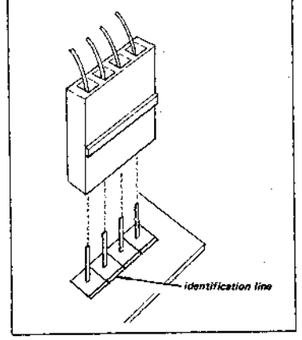
*– Conductor Side –*

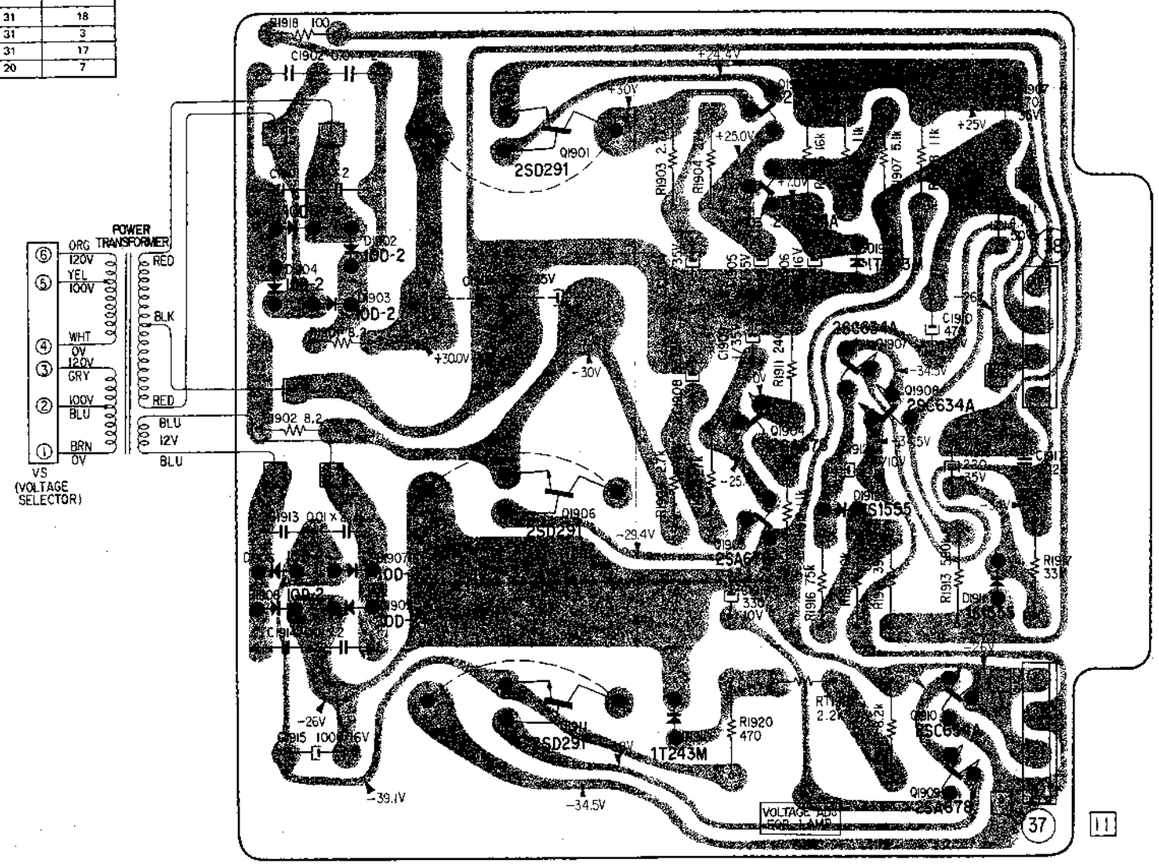
L Circuit Board

| Connector No. | Terminal No. of Connector | Color of Lead Wire: Conductors Sheath | Color of Lead Wire: Tube | To: Circuit Board | To: Connector No. | To: Terminal No. of Connector |
|---|---|---|---|---|---|---|
| (37) | 1 | RED | | I | 29 | 2 |
| | 2 | WHT/RED | | I | 29 | 1 |
| | 3 | BLU | | TERMINAL STRIP | | |
| | 4 | BLU | | TERMINAL STRIP | | |
| (38) | 1 | BRN | | J | 31 | 18 |
| | 2 | BLK | | J | 31 | 3 |
| | 3 | WHT/BRN | | J | 31 | 17 |
| | 4 | WHT/BLK | | D | 20 | 7 |




**CAUTION**
When reinstalling the connector, be careful to the direction of connector.

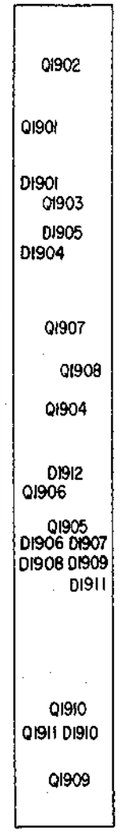


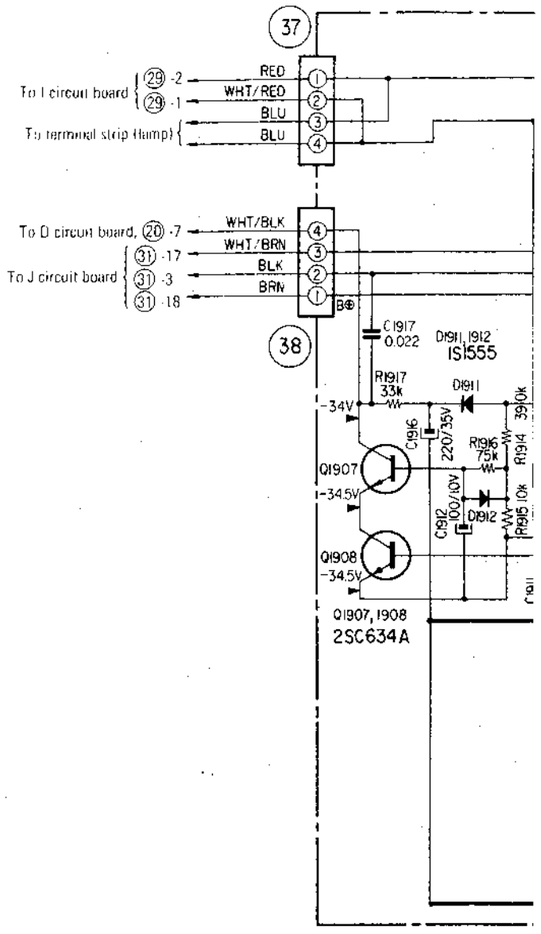






L

## SCHEMATIC DIAGRAM – L Section (Power Supply) –




**Note:**

All resistance values are in ohms, k = 1,000 M = 1,000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

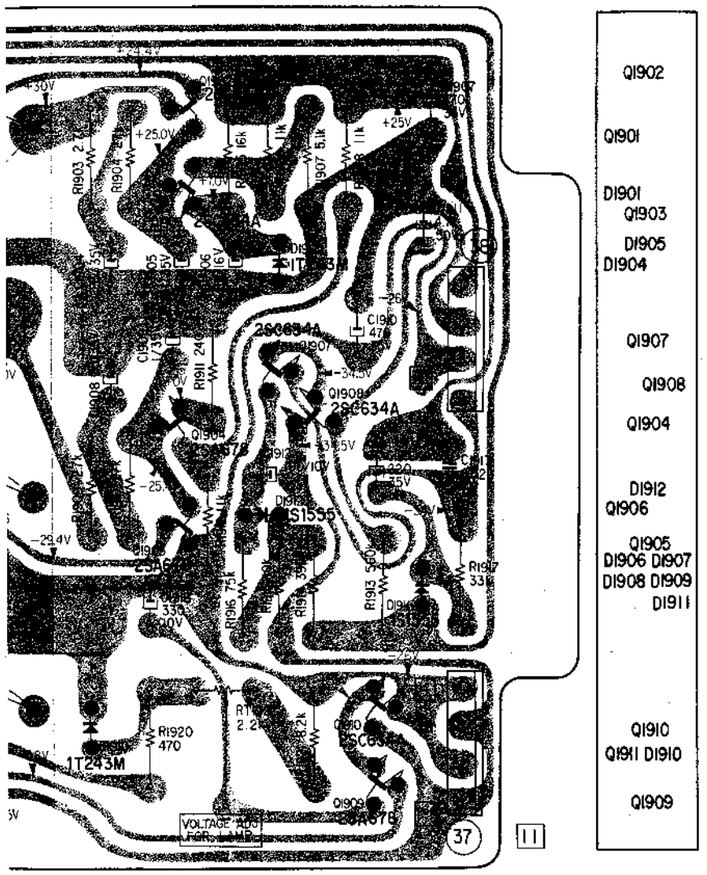
Voltage variations may be noted because of normal production tolerances.

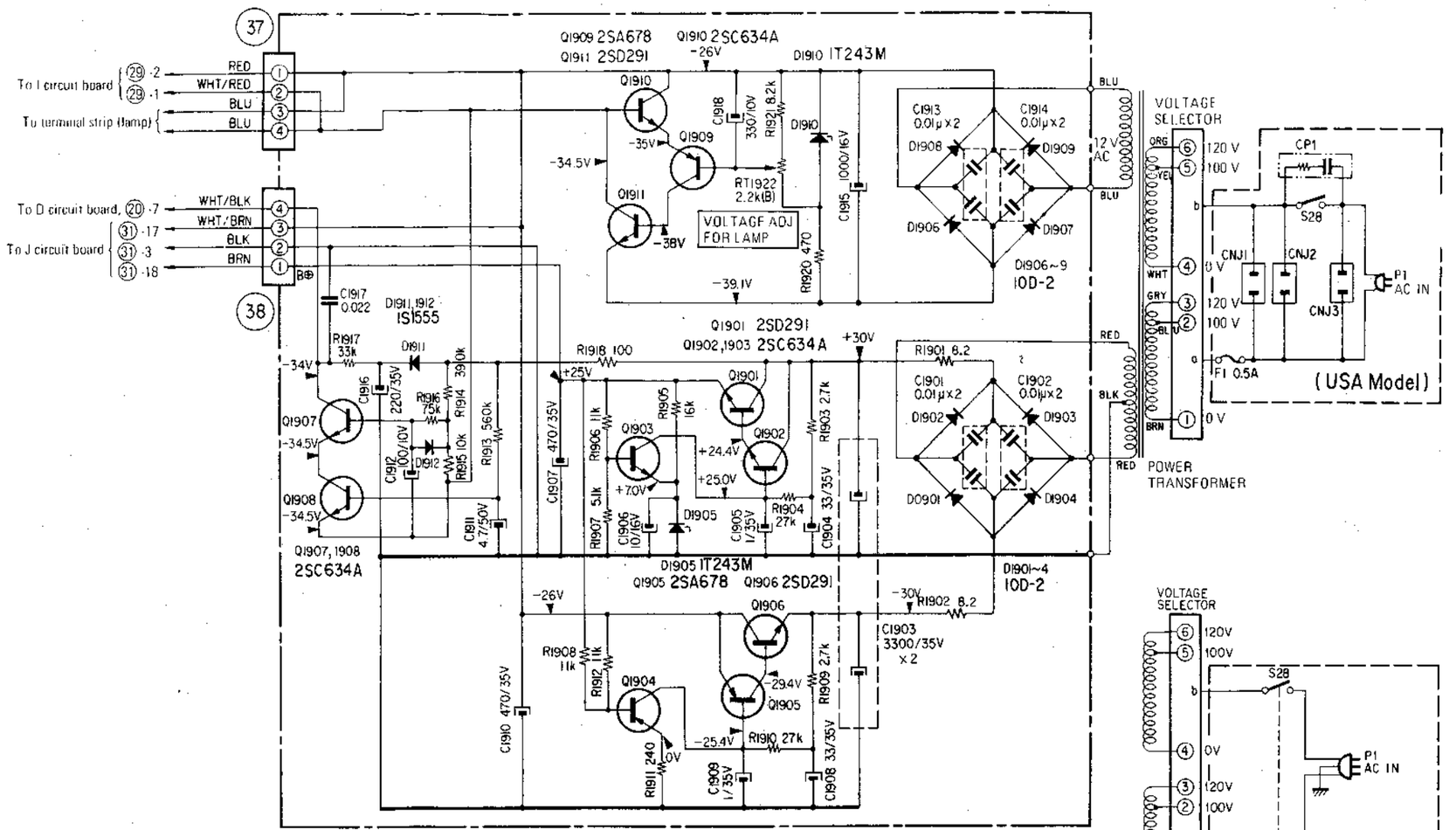
*d later)*

**L** **L**

SCHEMATIC DIAGRAM – L Section (Power Supply) –

*USA Model*
*(Serial No. 800, 141 and later)*
*AEP Model*




**Note:**

All resistance values are in ohms. k = 1,000 M = 1,000 k

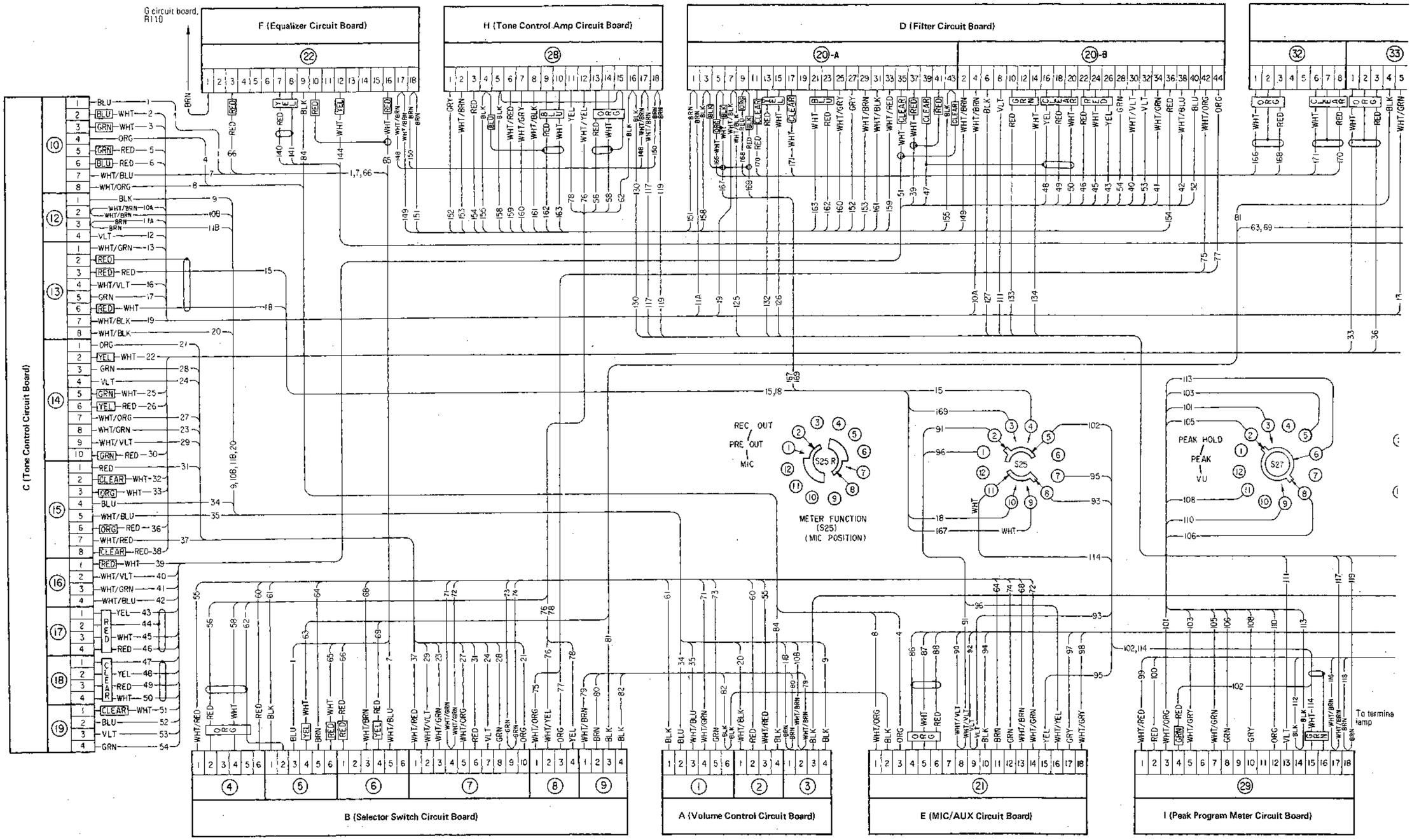
All capacitance values are in μF except as indicated with p, which means μμF.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

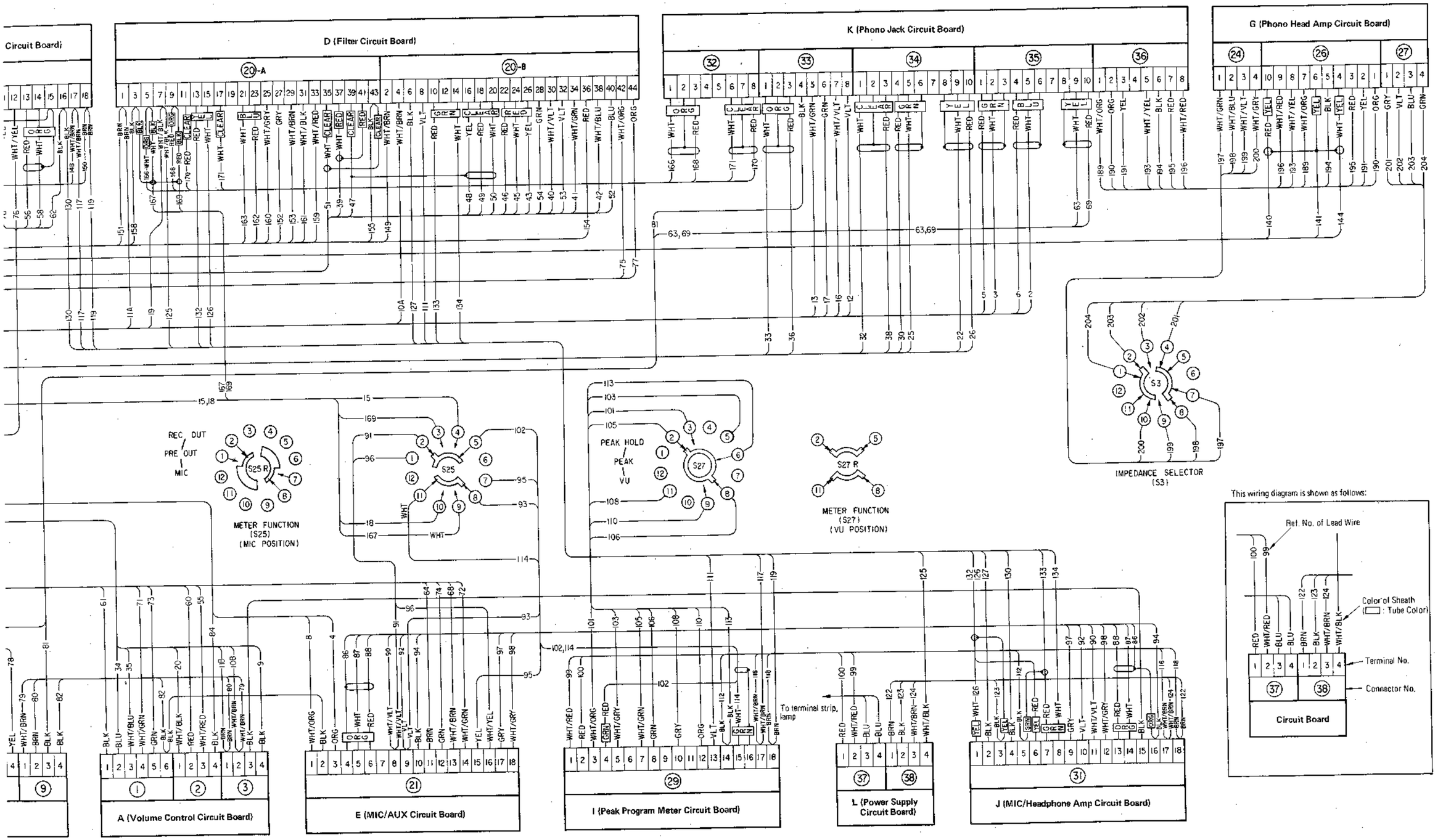
Voltage variations may be noted because of normal production tolerances.

| Ref. No. | Circuit Board | Page |
|---|---|---|
| A | Volume Control | 16 |
| B | Selector Switch | 19 |
| C | Tone Control | 21 |
| D | Filter | 25 |
| E | MIC/AUX | 29 |
| F | Equalizer | 33 |
| G | Phono Head Amp | 37 |
| H | Tone Control Amp | 41 |
| I | Peak Program Meter | 45 |
| J | MIC/Headphone Amp | 49 |
| K | Phono Jack | 54 |
| L | Power Supply | 57 |

## 4-28. WIRING DIAGRAM



TAE-8450




This wiring diagram is shown as follows:

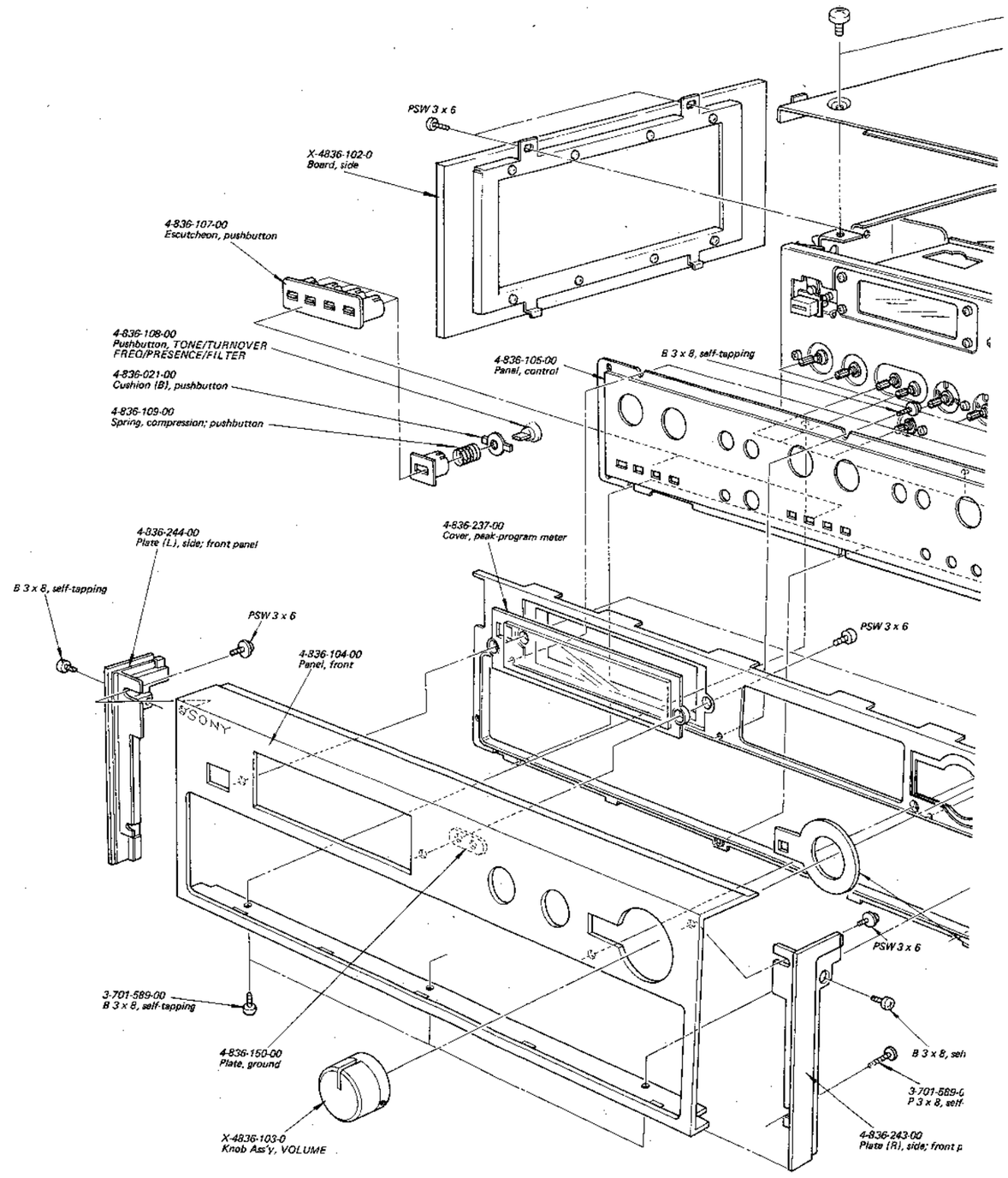
## MEMO





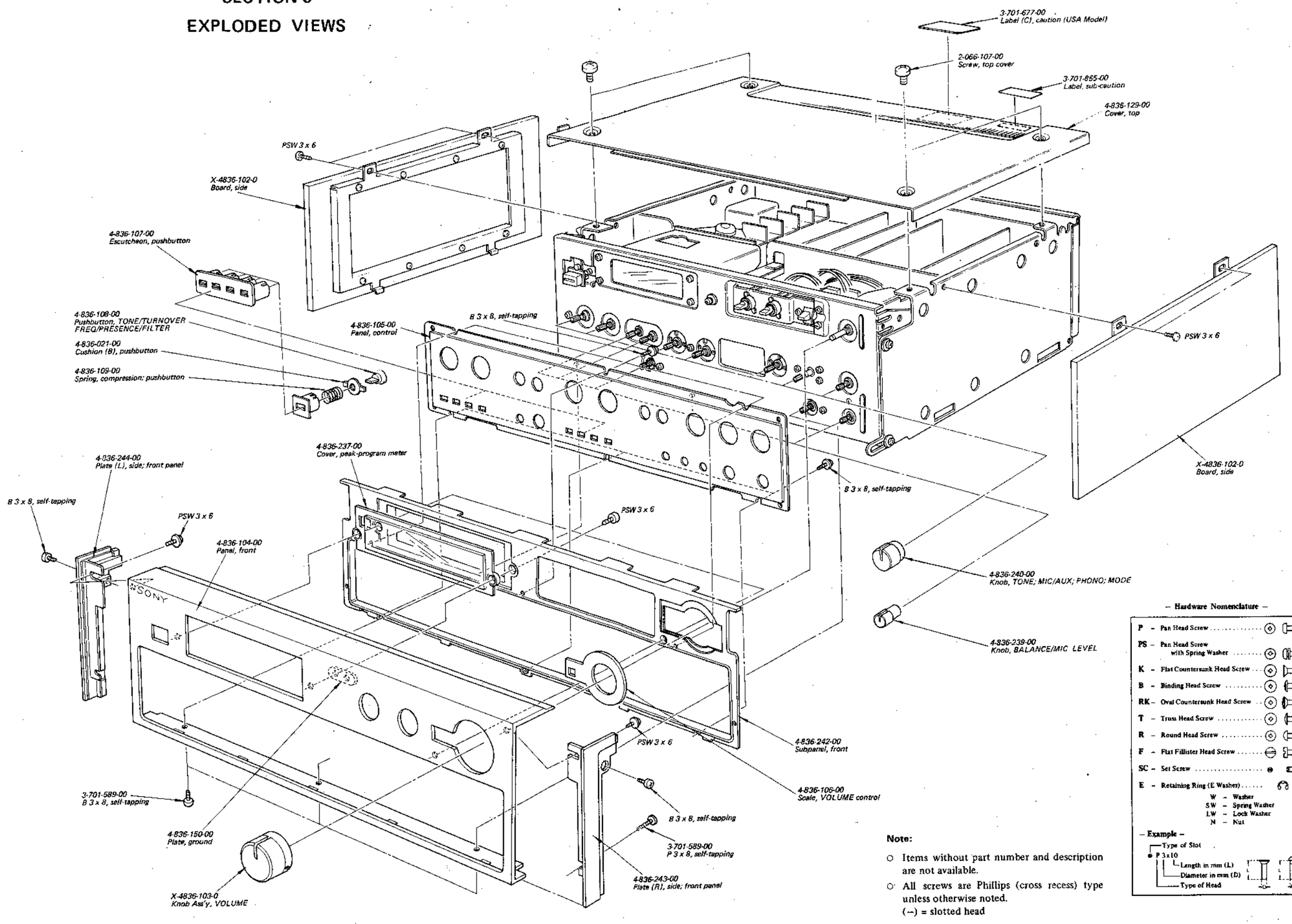
(1)

# SECTION 5
# EXPLODED VIEWS



## SECTION 5
## EXPLODED VIEWS

(1)




**– Hardware Nomenclature –**

| | | |
|---|---|---|
| P | – | Pan Head Screw |
| PS | – | Pan Head Screw with Spring Washer |
| K | – | Flat Countersunk Head Screw |
| B | – | Binding Head Screw |
| RK | – | Oval Countersunk Head Screw |
| T | – | Truss Head Screw |
| R | – | Round Head Screw |
| F | – | Flat Fillister Head Screw |
| SC | – | Set Screw |
| E | – | Retaining Ring (E Washer) |

W – Washer
SW – Spring Washer
LW – Lock Washer
N – Nut

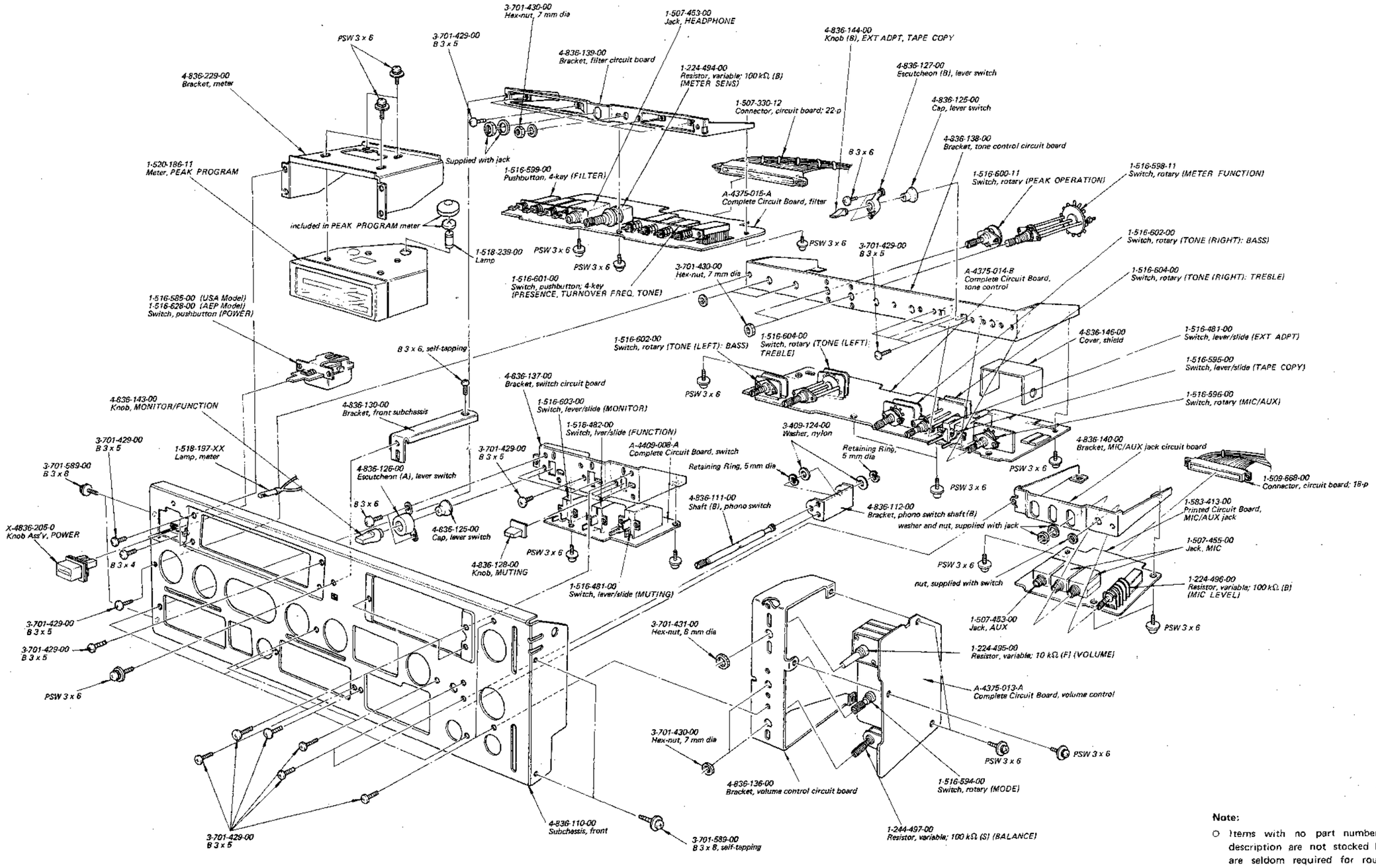
**– Example –**

Type of Slot
P 3x10
Length in mm (L)
Diameter in mm (D)
Type of Head

**Note:**

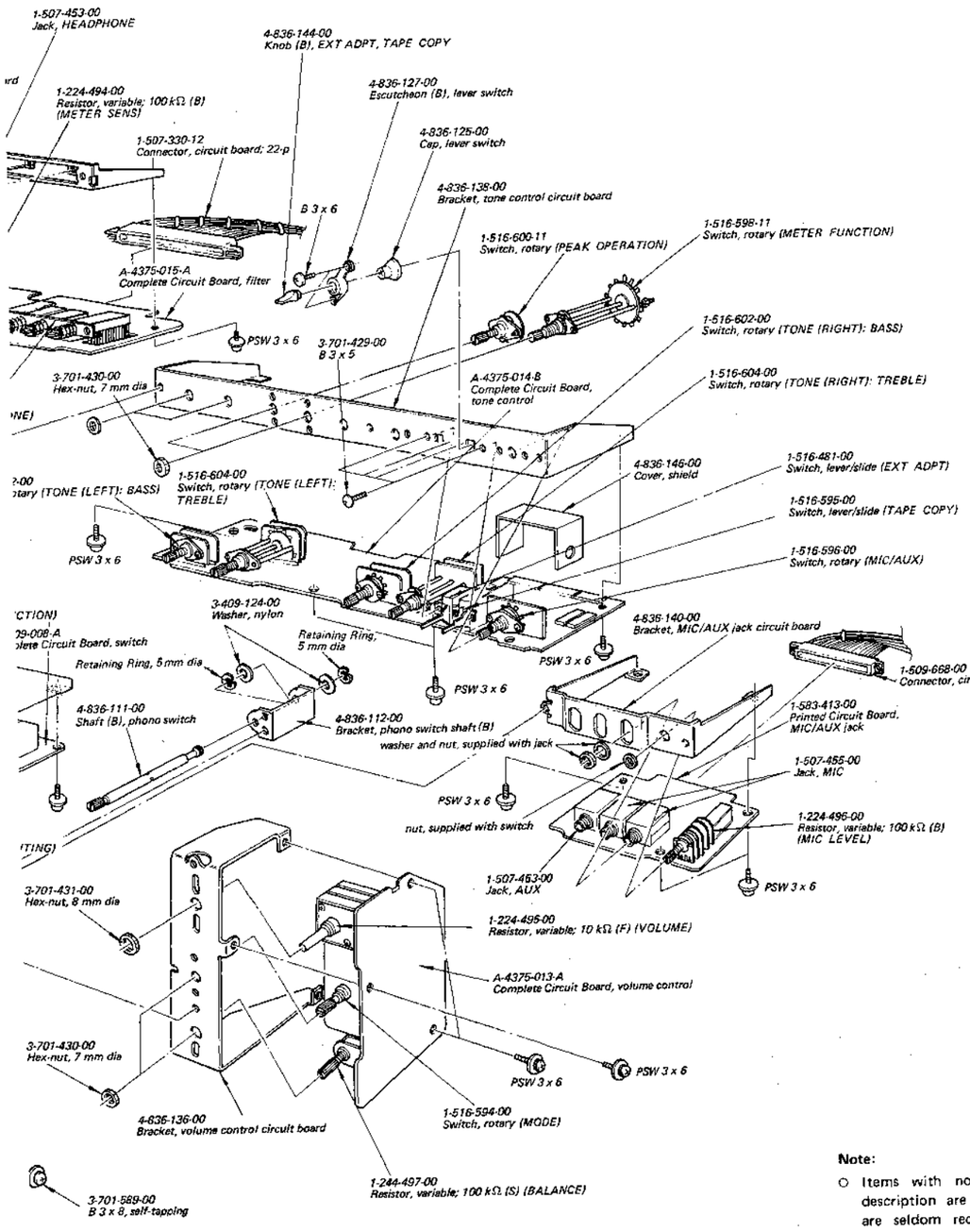
- Items without part number and description are not available.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

(2)




**Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head




**Note:**

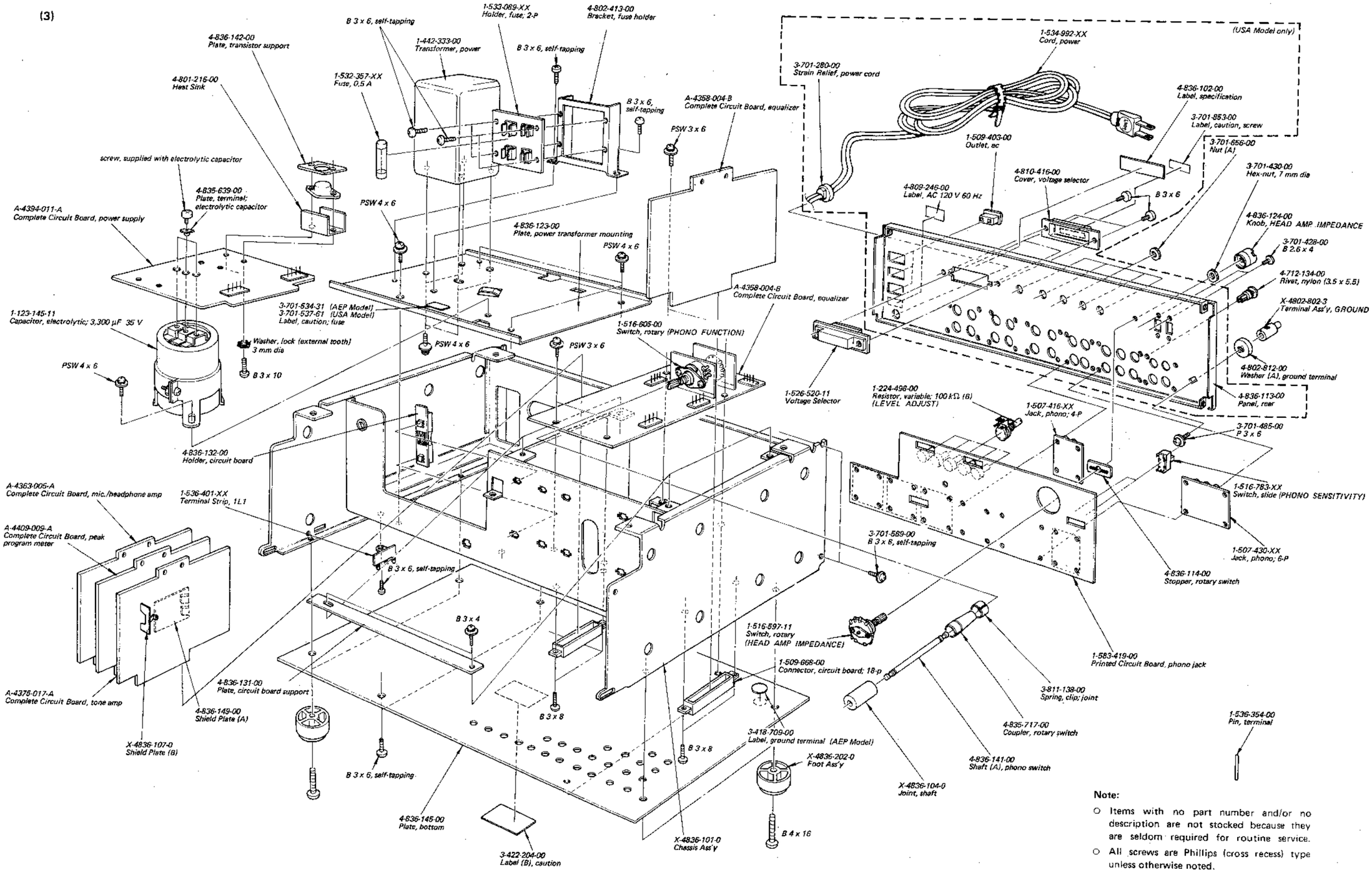
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  {—} = slotted head





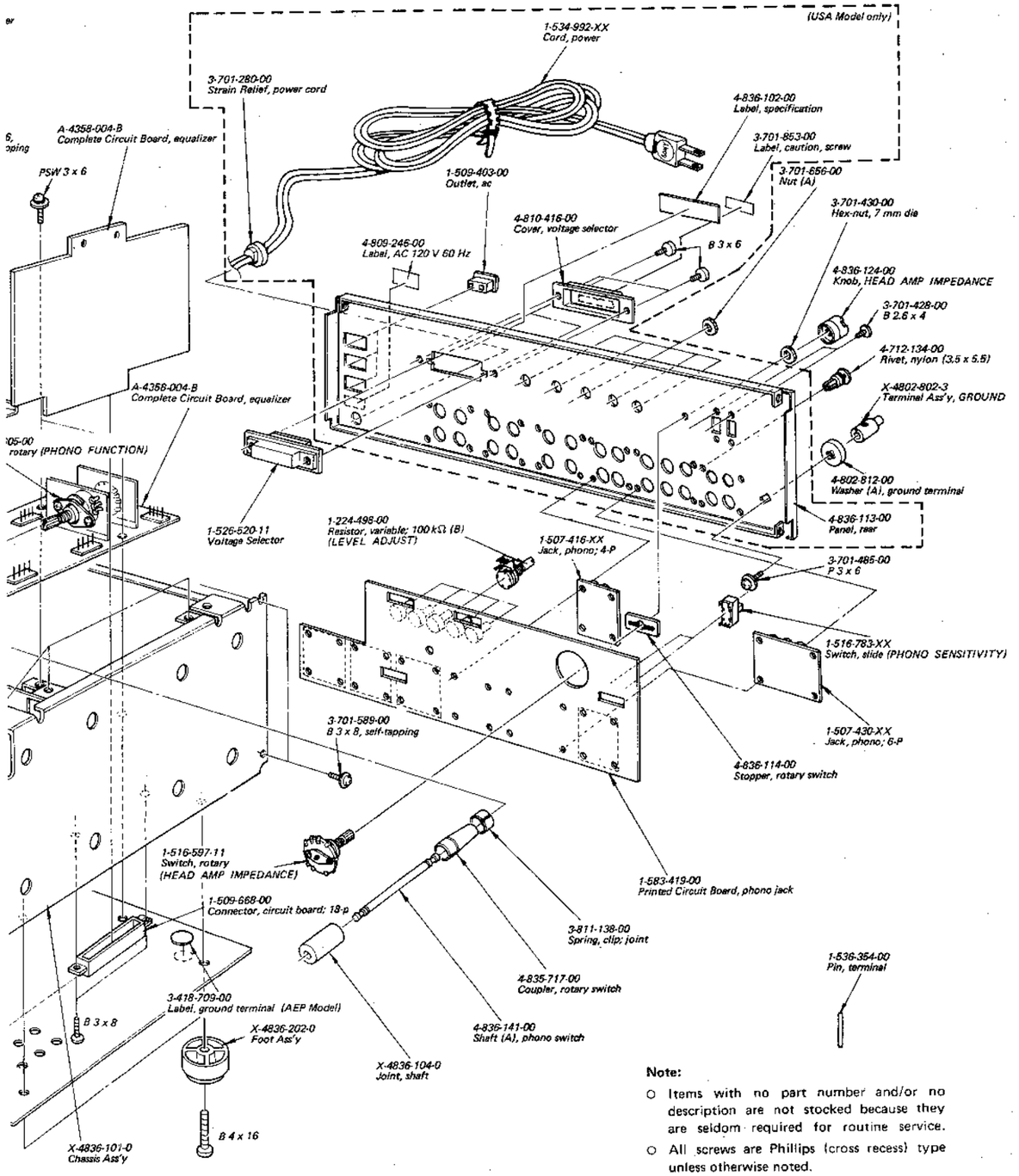
## MEMO

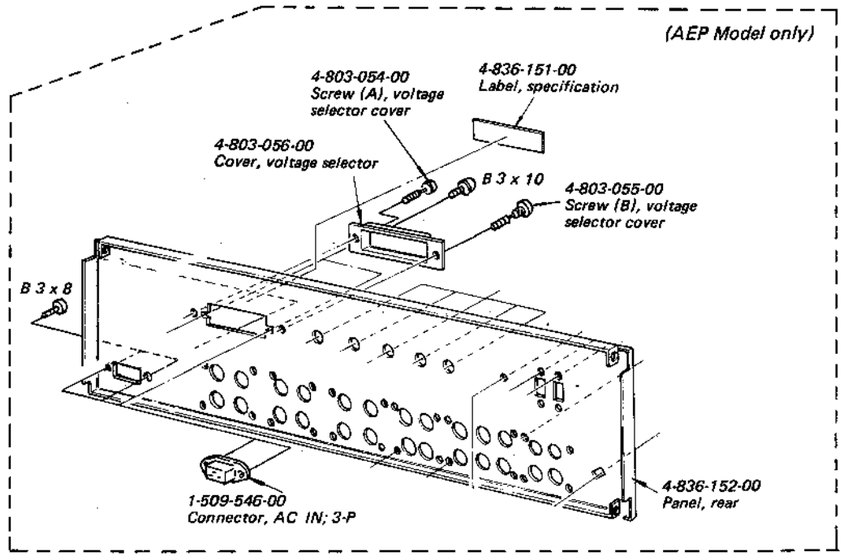
(3)




**Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head




**Note:**

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

# SECTION 6
# ELECTRICAL PARTS LIST

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| | | **CIRCUIT BOARDS** | |
| | A-4358-004-B | Equalizer, complete | |
| | A-4358-005-A | Head Amp, complete | |
| | A-4363-005-A | Mic./Headphone Amp, complete | |
| | A-4375-013-A | Volume Control, complete | |
| | A-4375-014-B | Tone Control, complete | |
| | A-4375-015-A | Filter, complete | |
| | A-4375-017-A | Tone Control Amp, complete | |
| | A-4394-011-A | Power Supply, complete | |
| | A-4409-008-A | Selector Switch, complete | |
| | A-4409-009-A | Peak Program Meter, complete | |
| | 1-583-413-00 | MIC/AUX Jack | |
| | 1-583-419-00 | Phono Jack | |
| | | **SEMICONDUCTORS** | |
| Q101(Q201) | | Transistor | 2SC1637 |
| Q102(Q202) | | Transistor | 2SA705 |
| Q103(Q203) | | Transistor | 2SA705 |
| Q301(Q401) | | FET | 2SK43 |
| Q302(Q402) | | FET | 2SK43 |
| Q303(Q403) | | FET | 2SK23A |
| Q304(Q404) | | FET | 2SK23A |
| Q305(Q405) | | Transistor | 2SA705 |
| Q306(Q406) | | Transistor | 2SA705 |
| Q307(Q407) | | FET | 2SK23A |
| Q308(Q408) | | Transistor | 2SA705 |
| Q309(Q409) | | FET | 2SK43 |
| Q310(Q410) | | FET | 2SK43 |
| Q311(Q411) | | FET | 2SK23A |
| Q312(Q412) | | FET | 2SK23A |
| Q313(Q413) | | Transistor | 2SA705 |
| Q314(Q414) | | Transistor | 2SA705 |
| Q315(Q415) | | FET | 2SK23A |
| Q316(Q416) | | Transistor | 2SA705 |
| Q501(Q601) | | FET | 2SK43 |
| Q502(Q602) | | FET | 2SK43 |
| Q503(Q603) | | FET | 2SK23A |
| Q504(Q604) | | FET | 2SK23A |

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| Q505(Q605) | | Transistor | 2SA705 |
| Q506(Q606) | | Transistor | 2SA705 |
| Q507(Q607) | | FET | 2SK23A |
| Q508(Q608) | | Transistor | 2SA705 |
| Q509(Q609) | | FET | 2SK43 |
| Q510(Q610) | | FET | 2SK43 |
| Q511(Q611) | | FET | 2SK23A |
| Q512(Q612) | | FET | 2SK23A |
| Q513(Q613) | | Transistor | 2SA705 |
| Q514(Q614) | | Transistor | 2SA705 |
| Q515(Q615) | | FET | 2SK23A |
| Q516 | | Transistor | 2SA705 |
| Q701(Q801) | | FET | 2SK58 |
| Q702(Q802) | | Transistor | 2SA705 |
| Q703(Q803) | | Transistor | 2SC632A |
| Q704(Q804) | | Transistor | 2SC632A |
| Q705(Q805) | | FET | 2SK58 |
| Q706(Q806) | | Transistor | 2SC632A |
| Q707(Q807) | | Transistor | 2SA705 |
| Q708(Q808) | | Transistor | 2SC632A |
| Q709 | | FET | 2SK58 |
| Q710(Q810) | | Transistor | 2SC632A |
| Q711(Q811) | | Transistor | 2SC632A |
| Q712(Q812) | | FET | 2SK43 |
| Q901(Q1001) | | Transistor | 2SC1124 |
| Q902(Q1002) | | Transistor | 2SA706 |
| Q1101(Q1201) | | Transistor | 2SC632A |
| Q1102(Q1202) | | Transistor | 2SA705 |
| Q1110(Q1210) | | FET | 2SK23A |
| Q1111(Q1211) | | Transistor | 2SC632A |
| Q1301(Q1401) | | Transistor | 2SC632A |
| Q1501(Q1601) | | FET | 2SK23A |
| Q1502(Q1602) | | Transistor | 2SC632A |
| Q1503(Q1603) | | FET | 2SK23A |
| Q1504(Q1604) | | Transistor | 2SC632A |

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| Q1701(Q1801) | | FET | 2SK43 |
| Q1702(Q1802) | | FET | 2SK43 |
| Q1703(Q1803) | | FET | 2SK43 |
| Q1704(Q1804) | | FET | 2SK43 |
| Q1901 | | Transistor | 2SD291 |
| Q1902 | | Transistor | 2SC634A |
| Q1903 | | Transistor | 2SC634A |
| Q1904 | | Transistor | 2SA678 |
| Q1905 | | Transistor | 2SA678 |
| Q1906 | | Transistor | 2SD291 |
| Q1907 | | Transistor | 2SC634A |
| Q1908 | | Transistor | 2SC634A |
| Q1909 | | Transistor | 2SA678 |
| Q1910 | | Transistor | 2SC634A |
| Q1911 | | Transistor | 2SD291 |
| IC901 | | IC | CX-0461 |
| IC902 | | IC | CX-0461 |
| D101 | | Diode | 1T243M |
| D102 | | Diode | 1T243M |
| D301(D401) | | Diode | VD-1221 |
| D701(D801) | | Diode | 1T22A |
| D702(D802) | | Diode | 1T22A |
| D703(D803) | | Diode | 1S1555 |
| D704(D804) | | Diode | 1S1555 |
| D705 | | Diode | 1T243 |
| D706(D806) | | Diode | 1S1555 |
| D901(D1001) | | Diode | 1T243 |
| D902(D1002) | | Diode | 1S1555 |
| D903(D1003) | | Diode | 1S1555 |
| D904(D1004) | | Diode | 1T243 |
| D1110 | | Diode | VD-1221 |
| D1501 | | Diode | VD-1221 |
| D1901 ~ D1904 | | Diode | 10D-2 |
| D1905 | | Diode | 1T243M |
| D1906 ~ D1909 | | Diode | 10D-2 |
| D1910 | | Diode | 1T243M |
| D1911 | | Diode | 1S1555 |

| Ref. No. | Part No. | Description | |
|---|---|---|---|
| D1912 | | Diode | 1S1555 |
| Th701 (Th801) | 1-800-349-00 | Thermistor | |
| | | **TRANSFORMER** | |
| | 1-442-333-00 | Power | |

**CAPACITORS**

Capacitors listed here are 50 V, mylar type unless otherwise specified and in $\mu$F except as indicated with p (p means $\mu\mu$). elect = electrolytic

| | | | | |
|---|---|---|---|---|
| C101(C201) | 1-131-197-11 | 3.3 | 16 V | tantalum |
| C102(C202) | 1-105-661-12 | 0.001 | | |
| C103(C203) | 1-131-197-11 | 3.3 | 16 V | tantalum |
| C104 | 1-121-413-11 | 100 | 6.3 V | elect |
| C105 | 1-121-409-11 | 47 | 16 V | elect |
| C106(C206) | 1-102-973-11 | 100 p | 50 V | ceramic |
| C301(C401) | 1-105-661-12 | 0.001 | | |
| C302(C402) | 1-102-963-11 | 33 p | 50 V | ceramic |
| C303(C403) | 1-105-522-12 | 0.056 | | |
| C305(C405) | 1-130-006-11 | 3.3 | 100 V | film |
| C306(C406) | 1-105-513-12 | 0.01 | | |
| C307(C407) | 1-105-661-12 | 0.001 | | |
| C308(C408) | 1-102-942-11 | 5 p | 50 V | ceramic |
| C309(C409) | 1-131-195-11 | 33 | 10 V | tantalum |
| C310(C410) | 1-105-685-12 | 0.1 | | |
| C311 | 1-105-841-12 | 0.047 | | |
| C312 | 1-105-841-12 | 0.047 | | |
| C313(C413) | 1-102-978-11 | 220 p | 50 V | ceramic |
| C315(C415) | 1-131-195-11 | 33 | 10 V | tantalum |
| C501(C601) | 1-102-947-11 | 10 p | 50 V | ceramic |
| C502(C602) | 1-105-661-12 | 0.001 | | |
| C503(C603) | 1-102-965-11 | 39 p | 50 V | ceramic |
| C504(C604) | 1-105-845-12 | 0.1 | | |
| C505(C605) | 1-121-927-11 | 47 | 10 V | elect |
| C506(C606) | 1-105-661-12 | 0.001 | | |
| C507(C607) | 1-102-942-11 | 5 p | 50 V | ceramic |

| Ref. No. | Part No. | Description | | |
|---|---|---|---|---|
| C508(C608) | 1-105-845-12 | 0.1 | | |
| C509(C609) | 1-121-927-11 | 47 | 10 V | elect |
| C510(C610) | 1-105-673-12 | 0.01 | | |
| C511(C611) | 1-105-665-12 | 0.0022 | | |
| C512(C612) | 1-121-927-11 | 47 | 10 V | elect |
| C513(C613) | 1-121-927-11 | 47 | 10 V | elect |
| C516(C616) | 1-102-947-11 | 10 p | 50 V | ceramic |
| C517 | 1-105-841-12 | 0.047 | | |
| C518 | 1-105-841-12 | 0.047 | | |
| C519(C619) | 1-102-963-11 | 33 p | 50 V | ceramic |
| C520(C620) | 1-121-912-11 | 1 | 50 V | elect |
| C701(C801) | 1-121-911-11 | 0.47 | 50 V | elect |
| C702(C802) | 1-102-972-11 | 91 p | 50 V | ceramic |
| C703(C803) | 1-123-054-11 | 22 | 16 V | elect |
| C704(C804) | 1-102-958-11 | 20 p | 50 V | ceramic |
| C705(C805) | 1-105-682-12 | 0.056 | | |
| C706(C806) | 1-105-682-12 | 0.056 | | |
| C707(C807) | 1-130-005-11 | 1 | 100 V | film |
| C708(C808) | 1-131-191-11 | 47 | 6.3 V | tantalum |
| C709(C809) | 1-131-191-11 | 47 | 6.3 V | tantalum |
| C711 | 1-123-062-11 | 100 | 35 V | elect |
| C712 | 1-123-062-11 | 100 | 35 V | elect |
| C901 (C1001) | 1-121-913-11 | 3.3 | 25 V | elect |
| C902 (C1002) | 1-105-661-12 | 0.001 | | |
| C904 (C1004) | 1-121-419-11 | 220 | 6.3 V | elect |
| C905 (C1005) | 1-102-942-11 | 5 p | 50 V | ceramic |
| C906 (C1006) | 1-121-913-11 | 3.3 | 25 V | elect |
| C907 (C1007) | 1-102-976-11 | 180 p | 50 V | ceramic |
| C908 (C1008) | 1-123-062-11 | 100 | 35 V | elect |
| C911 (C1011) | 1-121-912-11 | 1 | 50 V | elect |
| C912 (C1012) | 1-102-978-11 | 220 p | 50 V | ceramic |

| Ref. No. | Part No. | Description | | |
|---|---|---|---|---|
| C914 (C1014) | 1-121-915-11 | 4.7 | 25 V | elect |
| C915 (C1015) | 1-102-942-11 | 5 p | 50 V | ceramic |
| C916 (C1016) | 1-102-978-11 | 220 p | 50 V | ceramic |
| C917 (C1017) | 1-123-062-11 | 100 | 35 V | elect |
| C918 (C1018) | 1-123-062-11 | 100 | 35 V | elect |
| C919 (C1019) | 1-102-978-11 | 220 p | 50 V | ceramic |
| C920 | 1-121-479-11 | 22 | 16 V | elect |
| C1101 (C1201) | 1-105-845-12 | 0.1 | | |
| C1102 (C1202) | 1-121-259-11 | 10 | 16 V | elect |
| C1103 (C1203) | 1-123-055-11 | 47 | 16 V | elect |
| C1104 (C1204) | 1-105-845-12 | 0.1 | | |
| C1105 (C1205) | 1-123-055-11 | 47 | 16 V | elect |
| C1110 (C1210) | 1-105-845-12 | 0.1 | | |
| C1111 (C1211) | 1-123-055-11 | 47 | 16 V | elect |
| C1212 | 1-105-841-12 | 0.047 | | |
| C1213 | 1-105-841-12 | 0.047 | | |
| C1301 (C1401) | 1-105-525-12 | 0.1 | | |
| C1302 (C1402) | 1-121-259-11 | 10 | 16 V | elect |
| C1303 (C1403) | 1-105-525-12 | 0.1 | | |
| C1304 (C1404) | 1-123-055-11 | 47 | 16 V | elect |
| C1305 (C1405) | 1-105-507-12 | 0.0033 | | |
| C1306 (C1406) | 1-105-507-12 | 0.0033 | | |

| Ref. No. | Part No. | Description | | |
|---|---|---|---|---|
| C1307 (C1407) | 1-105-519-12 | 0.033 | | |
| C1308 (C1408) | 1-105-519-12 | 0.033 | | |
| C1309 (C1409) | 1-105-513-12 | 0.01 | | |
| C1310 (C1410) | 1-105-513-12 | 0.01 | | |
| C1311 (C1411) | 1-105-507-12 | 0.0033 | | |
| C1312 (C1412) | 1-105-525-12 | 0.1 | | |
| C1313 (C1413) | 1-105-525-12 | 0.1 | | |
| C1314 (C1414) | 1-105-519-12 | 0.033 | | |
| C1551 (C1601) | 1-105-525-12 | 0.1 | | |
| C1502 (C1602) | 1-105-521-12 | 0.047 | | |
| C1503 (C1603) | 1-131-197-11 | 3.3 | 16 V | tantalum |
| C1504 (C1604) | 1-121-916-11 | 10 | 16 V | elect |
| C1505 (C1605) | 1-105-501-12 | 0.001 | | |
| C1506 (C1606) | 1-102-824-11 | 470 p | 50 V | ceramic |
| C1507 (C1607) | 1-121-916-11 | 10 | 16 V | elect |
| C1901 | 1-102-355-11 | 0.01 (2 pieces) | 500 V | ceramic |
| C1902 | 1-102-355-11 | 0.01 (2 pieces) | 500 V | ceramic |
| C1903 | 1-123-145-11 | 3,300 (2 pieces) | 35 V | elect |
| C1904 | 1-121-652-11 | 33 | 35 V | elect |
| C1905 | 1-121-391-11 | 1 | 50 V | elect |
| C1906 | 1-121-651-11 | 10 | 16 V | elect |
| C1907 | 1-121-941-11 | 470 | 35 V | elect |
| C1908 | 1-121-652-11 | 33 | 35 V | elect |
| C1909 | 1-121-391-11 | 1 | 50 V | elect |
| C1910 | 1-121-941-11 | 470 | 35 V | elect |

| Ref. No. | Part No. | Description | | |
|---|---|---|---|---|
| C1911 | 1-121-396-11 | 4.7 | 50 V | elect |
| C1912 | 1-121-414-11 | 100 | 10 | elect |
| C1913 | 1-102-355-11 | 0.01 (2 pieces) | 500 V | ceramic |
| C1914 | 1-102-355-11 | 0.01 (2 pieces) | 500 V | ceramic |
| C1915 | 1-121-944-11 | 1000 | 16 V | elect |
| C1916 | 1-123-063-11 | 220 | 35 V | elect |
| C1917 | 1-105-677-12 | 0.022 | | |
| C1918 | 1-121-805-11 | 330 | 10 V | elect |

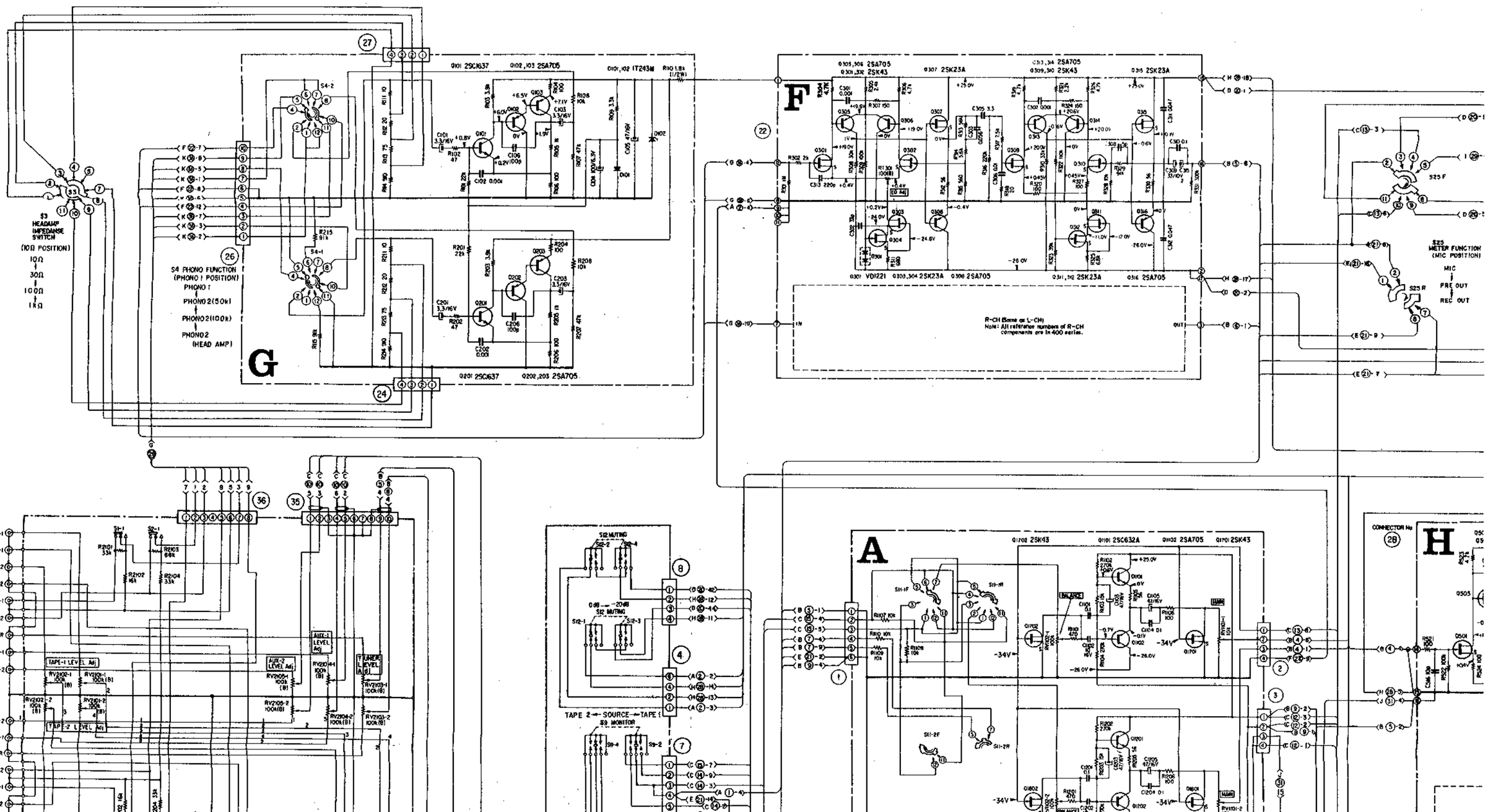
## RESISTORS

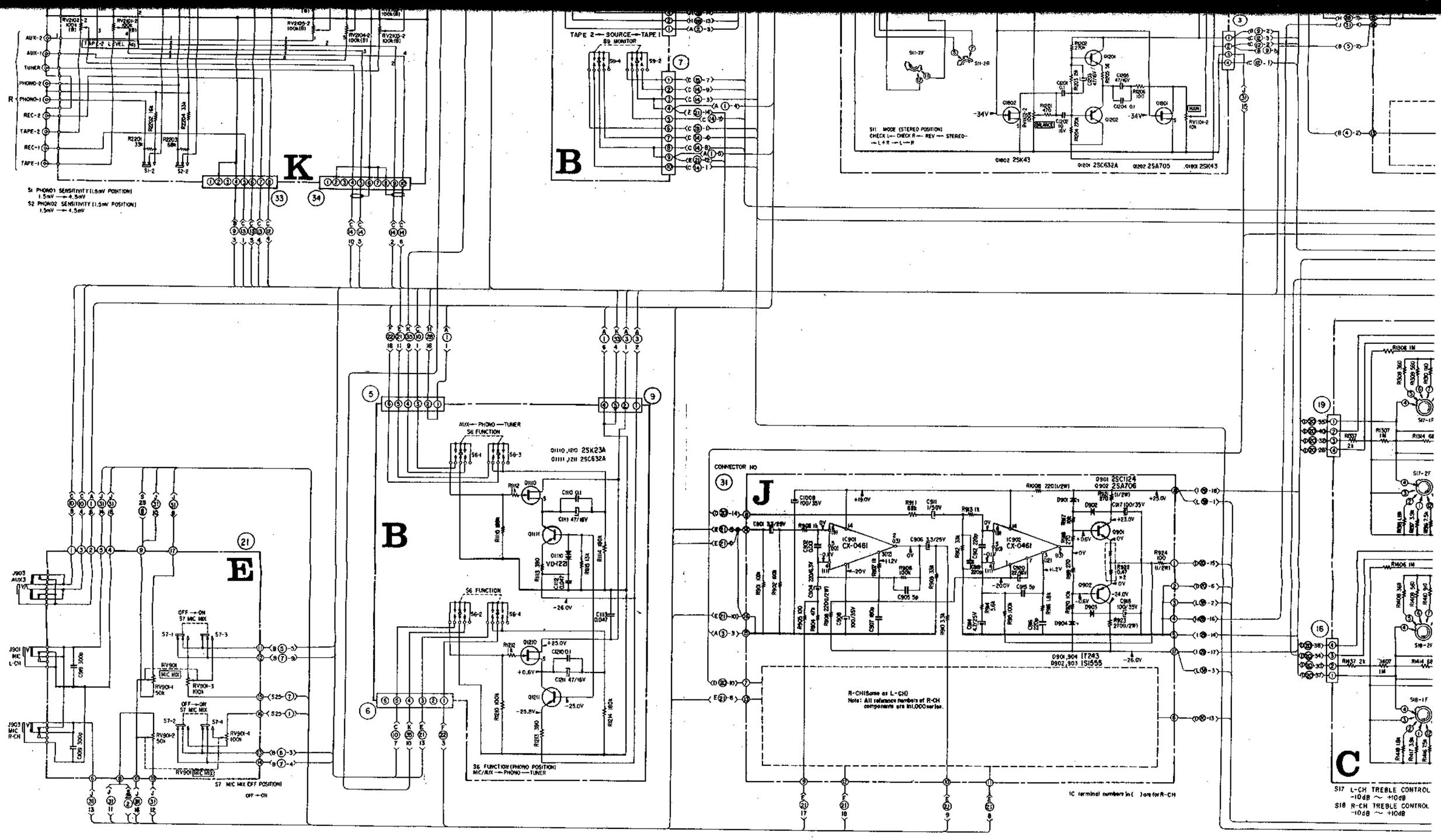
All resistors are Ω. ¼ W, ± 5 %, carbon resistors (except particular type) are omitted. Check schematic diagram for the resistance values. k = 1000, M = 100 k

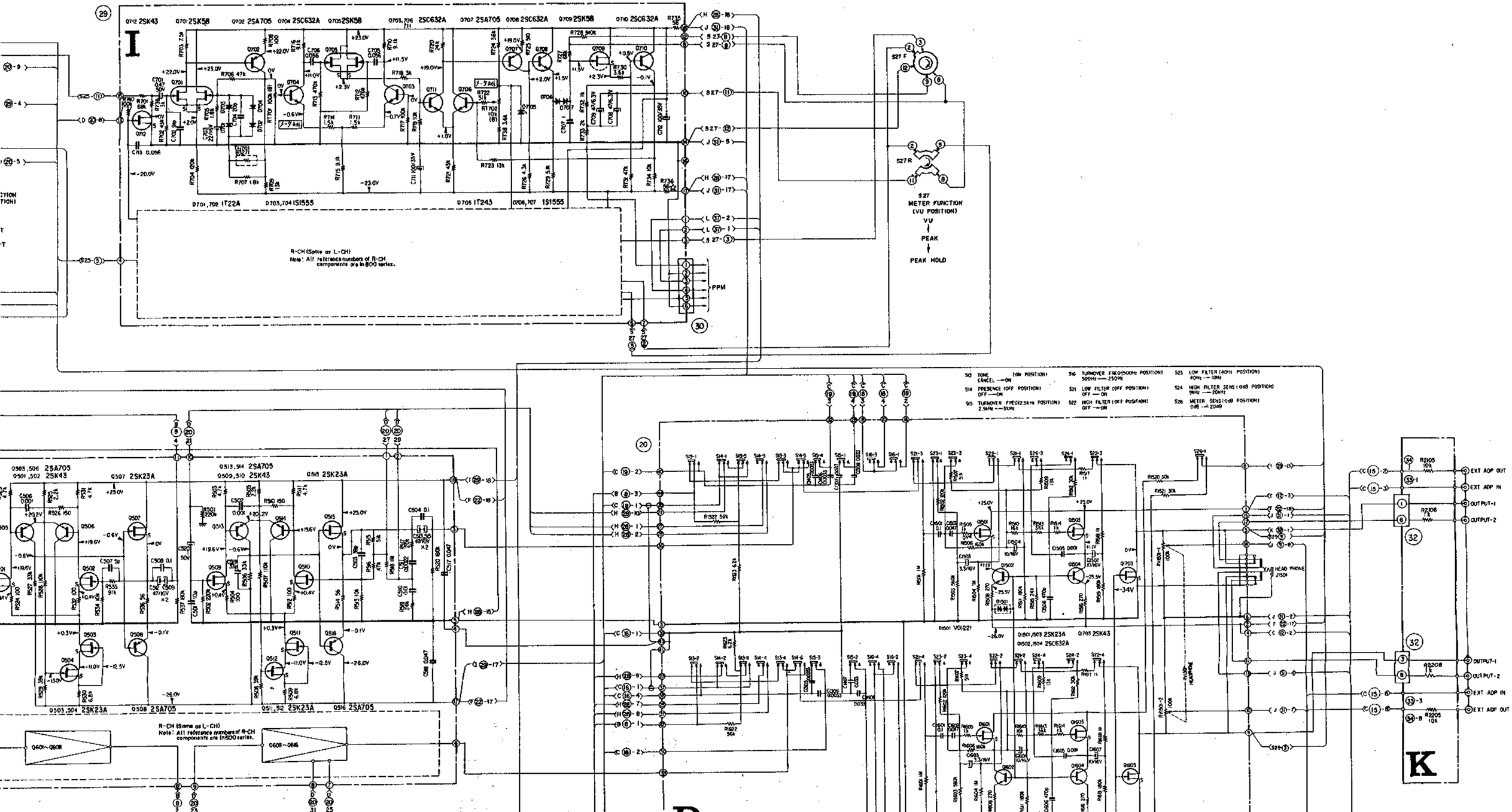
| | | | | |
|---|---|---|---|---|
| R110 | 1-202-579-11 | 1.8 k | ½ W | composition |
| R314(R414) | 1-211-915-11 | 5.6 k | ± 1 % | (nonflammable) |
| R317(R417) | 1-211-916-11 | 7.5 k | ± 1 % | (nonflammable) |
| R328(R428) | 1-210-506-11 | 10 k | ± 1 % | |
| R329(R429) | 1-211-923-11 | 91 k | ± 1 % | (nonflammable) |
| R513(R613) | 1-210-506-11 | 10 k | ± 1 % | |
| R516(R616) | 1-211-921-11 | 47 k | ± 1 % | (nonflammable) |
| R534(R634) | 1-210-506-11 | 10 k | ± 1 % | |
| R535(R635) | 1-211-923-11 | 91 k | ± 1 % | (nonflammable) |
| R732(R832) | 1-211-913-11 | 1 k | ± 1 % | (nonflammable) |
| R908 (R1008) | 1-202-557-11 | 220 | ½ W | composition |
| R921 (R1021) | 1-202-559-11 | 270 | ½ W | composition |
| R922 (R1022) | 1-217-359-11 | 0.47 (2 pieces) | 2 W | metal |
| R923 (R1023) | 1-202-559-11 | 270 | ½ W | composition |
| R924 (R1024) | 1-202-549-11 | 100 | ½ W | composition |
| RT301 (RT401) | 1-224-486-11 | 100, adjustable | | (equalizer) |
| RT701 (RT801) | 1-224-492-00 | 100 k, adjustable | | (peak program meter) |

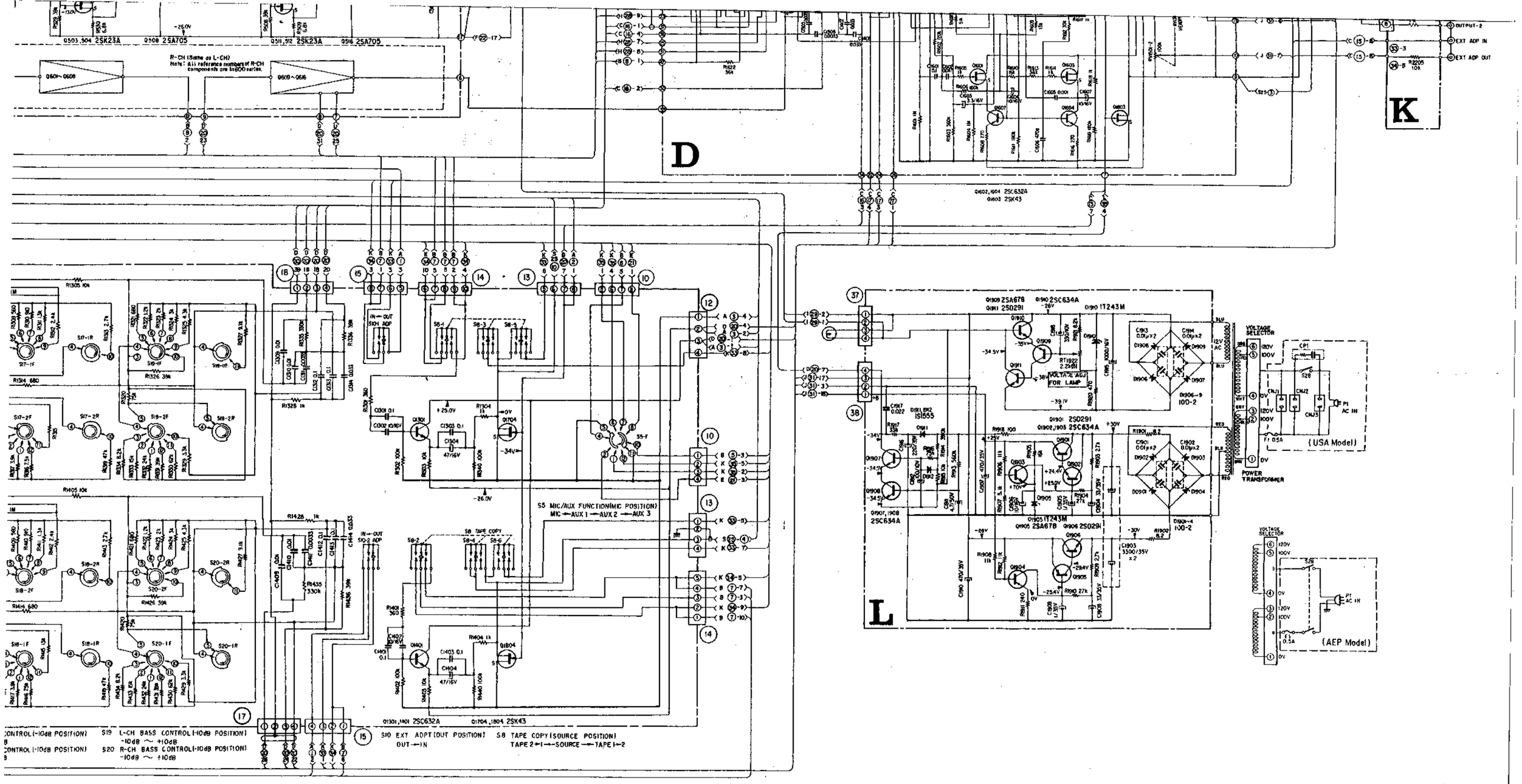
SONY

# TAE-8450 SCHEMATIC DIAGRAM




K
B
E
J
C
AUX-2
AUX-1
TUNER
PHONO-2
PHONO-1
REC-2
TAPE-2
REC-1
TAPE-1
TAPE 2 — SOURCE — TAPE 1
S9 MONITOR
S1 PHONO1 SENSITIVITY (1.5mV POSITION)
1.5mV — 4.5mV
S2 PHONO2 SENSITIVITY (1.5mV POSITION)
1.5mV — 4.5mV
S11 MODE (STEREO POSITION)
CHECK L— CHECK R— REV — STEREO—
—L+R —L—R
Q1802 2SK43
Q1201 2SC632A
Q1202 2SA705
Q1801 2SK43
AUX— PHONO —TUNER
S6 FUNCTION
Q1110,1210 2SK23A
Q1111,1211 2SC632A
VD-122
S6 FUNCTION (PHONO POSITION)
MIC/AUX — PHONO — TUNER
OFF — ON
S7 MIC MIX
S7 MIC MIX (OFF POSITION)
CONNECTOR NO
Q901 2SC1124
Q902 2SA706
Q901,904 IT243
Q902,903 IS1555
IC 901 CX-0461
IC 905 CX-0461
R-CH(Same as L-CH)
Note: All reference numbers of R-CH components are in1,000 series.
IC terminal numbers in ( ) are for R-CH
S17 L-CH TREBLE CONTROL
-10dB ~ +10dB
S18 R-CH TREBLE CONTROL
-10dB ~ +10dB


I
K
Q701,702 IT22A
Q703,704 IS1555
Q705 IT243
Q706,707 IS1555
R-CH (Same as L-CH)
Note: All reference numbers of R-CH components are in 600 series.
PPM
S27 METER FUNCTION (VU POSITION)
VU
PEAK
PEAK HOLD
S27 F
S27R
Q501,502 2SK43
Q503,504 2SK23A
Q505,506 2SA705
Q507 2SK23A
Q508 2SA705
Q509,510 2SK43
Q511,512 2SK23A
Q513,514 2SA705
Q515 2SK23A
Q516 2SA705
Q601~Q608
Q609~Q616
Q1501,1503 2SK23A
Q1502,1504 2SC632A
Q1703 2SK43
Q1501 VDI221
S13 TONE CANCEL (ON POSITION)
S14 PRESENCE (OFF POSITION)
S15 TURNOVER FREQ(2.5kHz POSITION)
S16 TURNOVER FREQ(500Hz POSITION)
S21 LOW FILTER (OFF POSITION)
S22 HIGH FILTER (OFF POSITION)
S23 LOW FILTER (40Hz POSITION)
S24 HIGH FILTER SENS (0dB POSITION)
S26 METER SENS (0dB POSITION)
HEAD PHONE J1501
EXT ADP OUT
EXT ADP IN
OUTPUT-1
OUTPUT-2




| Circuit Boards | Description |
|---|---|
| A | Volume Control |
| B | Selector Switch |
| C | Tone Control |
| D | Filter |
| E | MIC/AUX |
| F | Equalizer |

| Circuit Boards | Description |
|---|---|
| G | Phono Head Amp |
| H | Tone Control Amp |
| I | Peak Program Meter |
| J | MIC/Headphone Amp |
| K | Phono Jack |
| L | Power Supply |

| Ref. No. | Part No. | Description |
|---|---|---|
| RT702 (RT802) | 1-224-493-00 | 10 k, adjustable |
| RT1922 | 1-224-643-XX | 2.2 k, adjustable (voltage control) |
| RV901 | 1-224-496-11 | 100 k (B), variable (MIC LEVEL) |
| RV1101 | 1-224-495-00 | 10 k (F), variable (VOLUME) |
| RV1102 | 1-224-497-00 | 100 k (S), variable (BALANCE) |
| RV1501 | 1-224-494-00 | 100 k (B), variable (METER SENS) |
| RV2101 ~ RV2105 | 1-224-498-00 | 100 k (B), variable (LEVEL ADJUST) |

**SWITCHES**

| | | |
|---|---|---|
| S1, S2 | 1-516-783-XX | Slide (PHONO SENSITIVITY) |
| S3 | 1-516-597-11 | Rotary (HEAD AMP IMPEDANCE) |
| S4 | 1-516-605-00 | Rotary (PHONO FUNCTION) |
| S5 | 1-516-596-00 | Rotary (MIC/AUX) |
| S6 | 1-516-482-00 | Lever/Slide (FUNCTION) |
| S7 | | – built in RV901 – |
| S8 | 1-516-595-00 | Lever/Slide (TAPE COPY) |
| S9 | 1-516-603-00 | Lever/Slide (MONITOR) |
| S10 | 1-516-481-00 | Lever/Slide (EXT ADPT) |
| S11 | 1-516-594-00 | Rotary (MODE) |
| S12 | 1-516-481-00 | Lever/Slide (MUTING) |
| S13 ~ S16 | 1-516-601-00 | Pushbutton, 4-key (PRESENCE, TURNOVER, FREQ, TONE) |
| S17, S18 | 1-516-604-00 | Rotary (TREBLE) |
| S19, S20 | 1-516-602-00 | Rotary (BASS) |
| S21 ~ S24 | 1-516-599-00 | Pushbutton, 4-key (FILTER) |
| S25 | 1-516-598-11 | Rotary (METER FUNCTION) |
| S26 | | – built in RV1501 – |
| S27 | 1-516-600-11 | Rotary (PEAK OPERATION) |
| S28 | 1-516-585-00 | Pushbutton (POWER) (USA Model) |
| | 1-516-628-00 | Pushbutton (POWER) (AEP Model) |

**MISCELLANEOUS**

| | | |
|---|---|---|
| CNJ1 ~ CNJ3 | 1-509-403-00 | Outlet, ac (USA Model) |
| CP1 | 1-101-534-12 | Encapsulated Component, (USA Model) 120 Ω + 0.033 μF |
| F1 | 1-532-357-XX | Fuse, 0.5 A |
| J901, J903 | 1-507-455-00 | Jack, MIC |
| J902 | 1-507-453-00 | Jack, AUX |
| J1501 | 1-507-453-00 | Jack, HEADPHONE |
| L1 | 1-518-197-XX | Lamp, meter; 8 V/30 mA |
| M1, M2 | 1-520-186-11 | Meter, PEAK PROGRAM |
| VS | 1-526-520-11 | Selector, voltage |
| | 1-507-330-12 | Connector, circuit board; 22-P |
| | 1-507-430-XX | Jack, phono; 6-P |
| | 1-507-416-XX | Jack, phono; 4-p |
| | 1-508-648-00 | Connector, 4-P (male) |
| | 1-508-649-00 | Connector, 6-P |
| | 1-508-650-00 | Connector, 10-P |
| | 1-508-651-00 | Connector, 10-P |
| | 1-508-652-00 | Connector, 8-P |
| | 1-508-692-00 | Connector, 8-P |
| | 1-508-693-00 | Connector, 10-P |
| | 1-508-694-00 | Connector, 8-P |
| | 1-508-695-00 | Connector, 6-P |
| | 1-509-546-00 | Connector, AC IN, 3-P (AEP Model) |
| | 1-509-668-00 | Connector, circuit board; 18-P |
| | 1-518-239-00 | Lamp (included in PEAK PROGRAM meter) |
| | 1-533-089-XX | Holder, fuse; 2-P |
| | 1-534-992-XX | Cord, power (USA Model) |
| | 1-536-354-00 | Pin, terminal |
| | 1-536-401-XX | Terminal Strip, 1L1 |

**ACCESSORIES**

| Part No. | Description |
|---|---|
| 1-506-113-00 | Plug, shorting |
| 1-534-049-51 | Cord, connection; RK-74 |
| 1-534-514-13 | Cord, connection; RK-81 |
| 1-534-514-22 | Cord, connection; RK-81 |
| 1-534-754-00 | Cord, power (AEP Model) |
| 3-780-431-21 | Manual, instruction |
| 3-793-766-21 | Sheet, supplemental (AEP Model) |
| 3-793-767-00 | Sheet, checking |
| 3-793-785-00 | Cover, instruction manual |