

# Technical Manual

## STEREO CONTROL AMPLIFIER RC-1000

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**Serial No. Beginning  
NC12412**

**THE ROTEL CO., LTD.  
ROTEL ELECTRONICS CO., LTD.  
ROTEL OF AMERICA, INC.  
ROTEL HI FI LIMITED**

1-36-8 OHOKAYAMA, MEGURO-KU, TOKYO 152, JAPAN  
2ND FLOOR, EVERGLORY BLDG., NO. 305, SECTION 3,  
NANKING E. ROAD, TAIPEI, TAIWAN, REPUBLIC OF CHINA  
1055 SAW MILL RIVER ROAD, ARDSLEY, N.Y. 10502, U.S.A.  
2-4 ERICA ROAD, STACEY BUSHES, MILTON KEYNES,  
BUCKINGHAMSHIRE, ENGLAND

# TECHNICAL INFORMATION FOR MODEL RA- RB- RC-1000

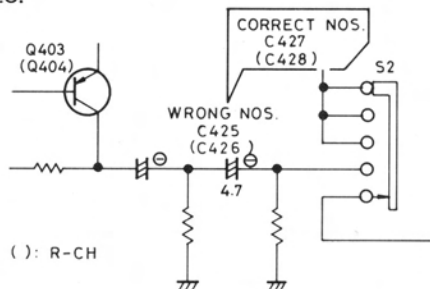
This publication is a supplement to Technical Manual for the model above, and includes the following.

- Errata
- Revisions and changes made on the units produced after the publication of Technical Manual

This publication should be filed together with the Technical Manual.

**A. Errata**

1. Page 8, Repair Parts List, left column, line 6, Part No. **141810956** of Function SW PCB Ass'y should read **141810958**.
2. Page 11, Schematic Diagram for RC-1000, Phono Section, symbol Nos. of the capacitors shown in Fig. 1 are corrected as follows: C425 to C427; C426 to C428.



**Fig. 1 Phono Amp Circuit (Portion) for RC-1000**

The same correction is applied to the Phono Amp PCB in page 14. Also, C426 located at the right side of S2 in the bottom center in the figure should read C428; and C425 at bottom center inside the alternate long and short dash line in the MC amp section should read C427.

**B. Changes in and Addition to Circuit Components**

1. Changes made to RA-1000 (applicable to the units with Serial No. beginning NC61910 or over).
  - a) MC Head Amp Circuit is added to the Phono Amp Circuit. The Phono Circuit with built-in MC Head Amp is the same as that of the RC-1000. Because of this modification, the capacitors C423, and 424 on the Phono Amp Circuit is changed to 100mfd. +B Circuit is partly modified. Fig. 2 shows the modified and related portion.

- b) Because of this modification, component parts are added as listed in Table 1 to the models equipped with built-in MC Head Amp. (Not applicable to the conventional unit without MC Head Amp.)

| Schematic Location | Description                        | Part No.   |
|--------------------|------------------------------------|------------|
| Q401, 402          | FET, 2SK155(S)                     | 302001123  |
| Q403, 404          | Transistor, 2SA921 (S, T)          | 301001145  |
| Q405               | Transistor, 2SC1318 (R, S)         | 301201155  |
| D401, 402          | Zener Diode, RD3.6EC, 3.6V, 0.4W   | 300313039  |
| D001               | Zener Diode, BZ-120, 12V, 1W       | 300313004  |
|                    | Phono Amp Circuit Board Ass'y      | 141510174* |
|                    | Front Panel Ass'y (Metallic Brown) | 111911489  |
|                    | Front Panel Ass'y (Black)          | 111911490  |
|                    | Rear Panel                         | 123011520  |
|                    | Owner's Manual                     | 833201364  |

\* Common to the Phono Amp Circuit Board Ass'y for RC-1000.  
 Note: Repair parts for the models without MC Head Amp are as listed in the Parts List of Technical Manual.

**Table 1**

2. Changes for RB-1000
 

Some component parts of the power supply for the units destined for Canada are changed as follows (conforming to CSA standards):

  - a) Power Transformer "D-type" 204001475
  - b) Power Switch (CSA approved type) 614010139
  - c) Noise Canceller "NSK-132" 470101129
3. Changes for RC-1000
  - a) The value of the capacitor C911 on the power supply circuit is changed from 1,000mfd to 2,200mfd.
  - b) The primary fuse for the European models is changed.
 

F901: from 200mAT to 125mAT  
 (Part No. 345952012)

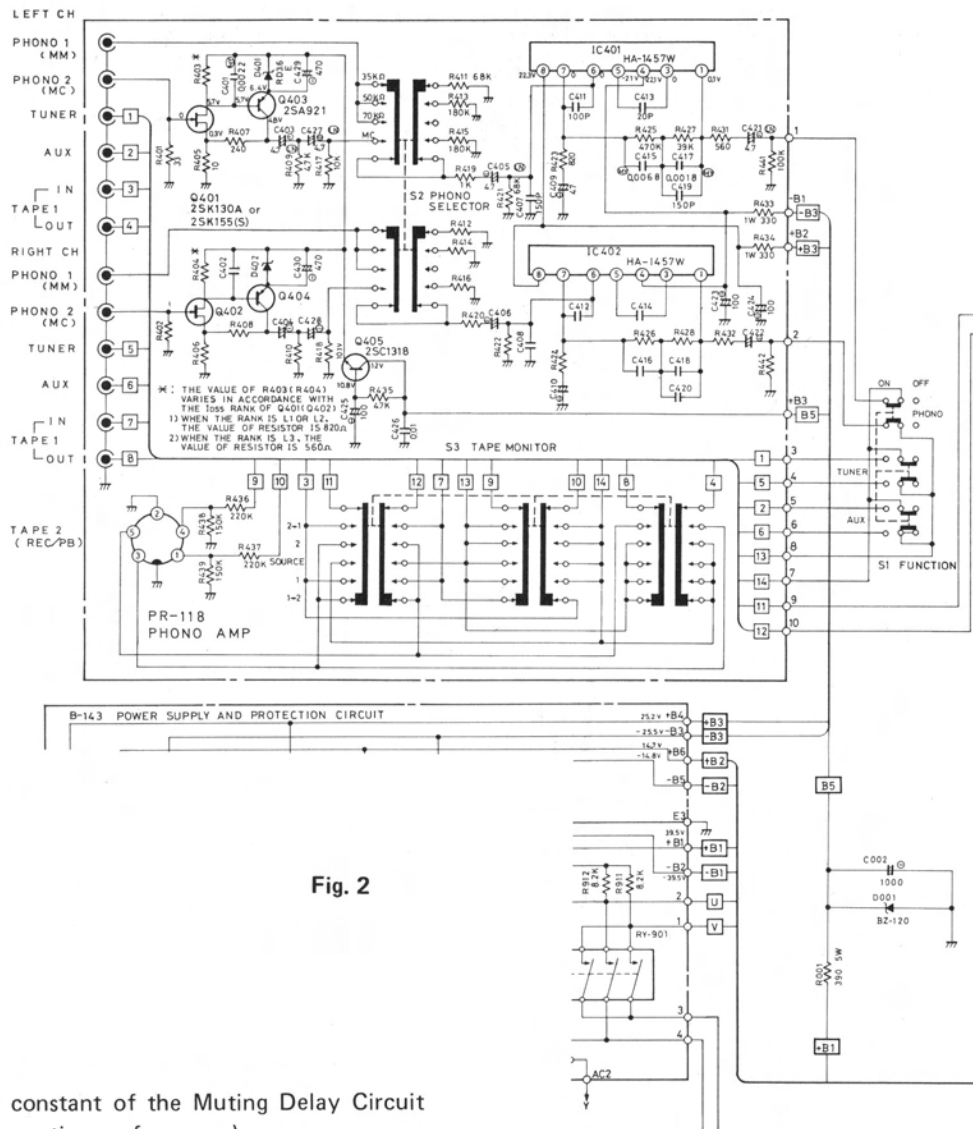


Fig. 2

c) Change of constant of the Muting Delay Circuit (to improve muting performance):

- 1) R804: from 470 kohms to 220 kohms
- 2) R805: from 4.7 kilohms to 1.5 kohms

d) Changes of Headphone Amp Circuit:

- 1) R851: from 10 kilohms to 18 kilohms
- 2) Part of circuit path is cut off and new wiring is added on the Headphone AMP PCB (X-334). See Fig. 3.

e) Change of Phono Amp Circuit:

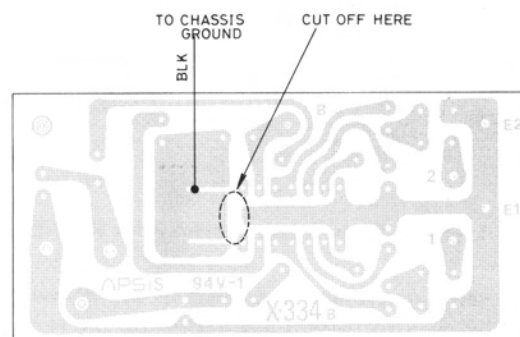
- 1) FET Q401 and 402 are changed from 2SK130 to 2SK155(S).
- 2) Because of the change in (1), R403 and 404 are specified as 820 ohms only.
- 3) Electrolytic capacitors C429 and 430, 470mfd, are added in parallel with D401 and 402. (See Fig. 2 Phono Amp Circuit for RA-1000).

f) The units for Norway and Switzerland are provided with fuse which is placed at the secondary side of the power supply circuit as shown in Fig. 4 (as required by NEMKO and SEV standards).

|                          |           |
|--------------------------|-----------|
| Fuse Circuit Board Ass'y | 141810988 |
| Fuse, 125mAT             | 345952012 |
| Fuse Clip                | 648211147 |

4. Changes common to RA-1000 and RC-1000

- a) Transistors Q501 and 502 on the Tone Amp Circuit are changed from 2SC828 to 2SC1327 (R, S), Part No. 301201175 (in order to improve noise characteristics).



Note: The pattern encircled by the broken line has been cut off.

Fig. 3

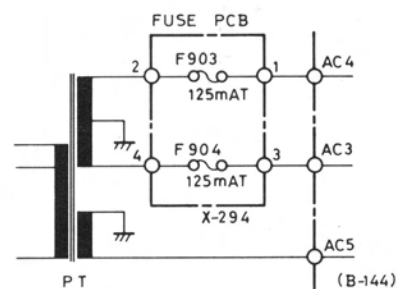
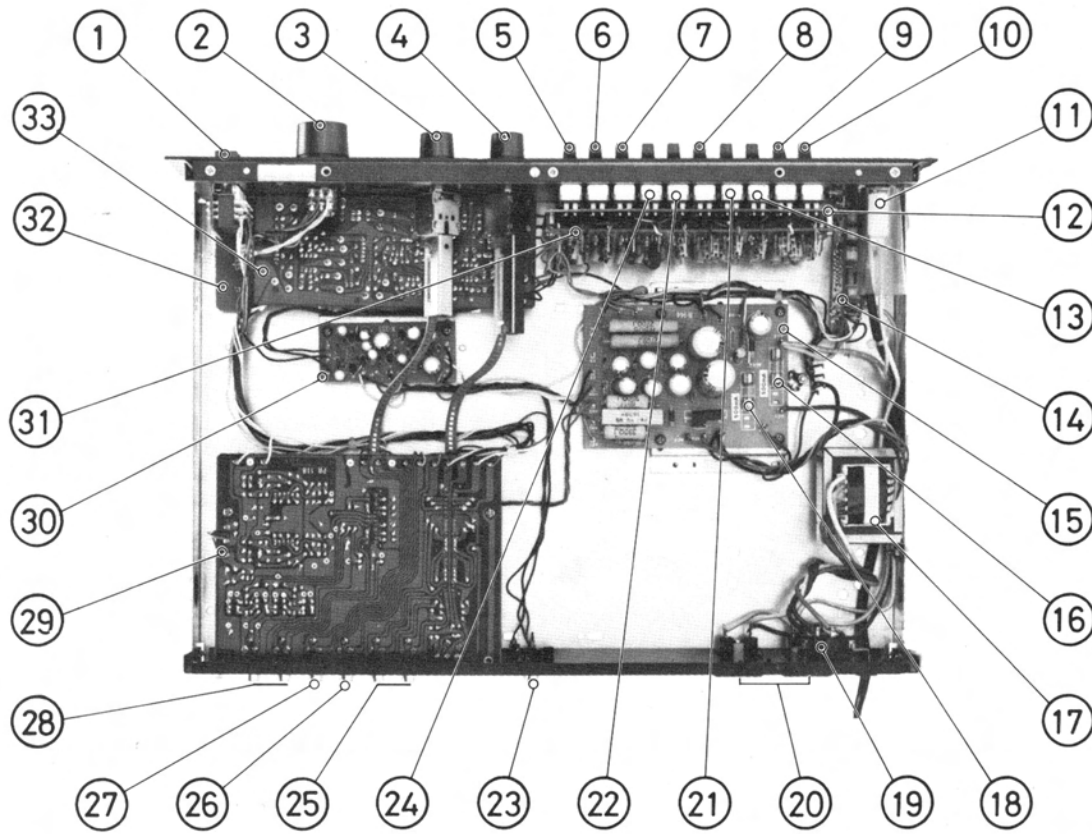


Fig. 4 Power Supply Circuit (Portion) for RC-1000 (NEMKO, SEV Approved Type Only)

# Chassis Layout (Top View)

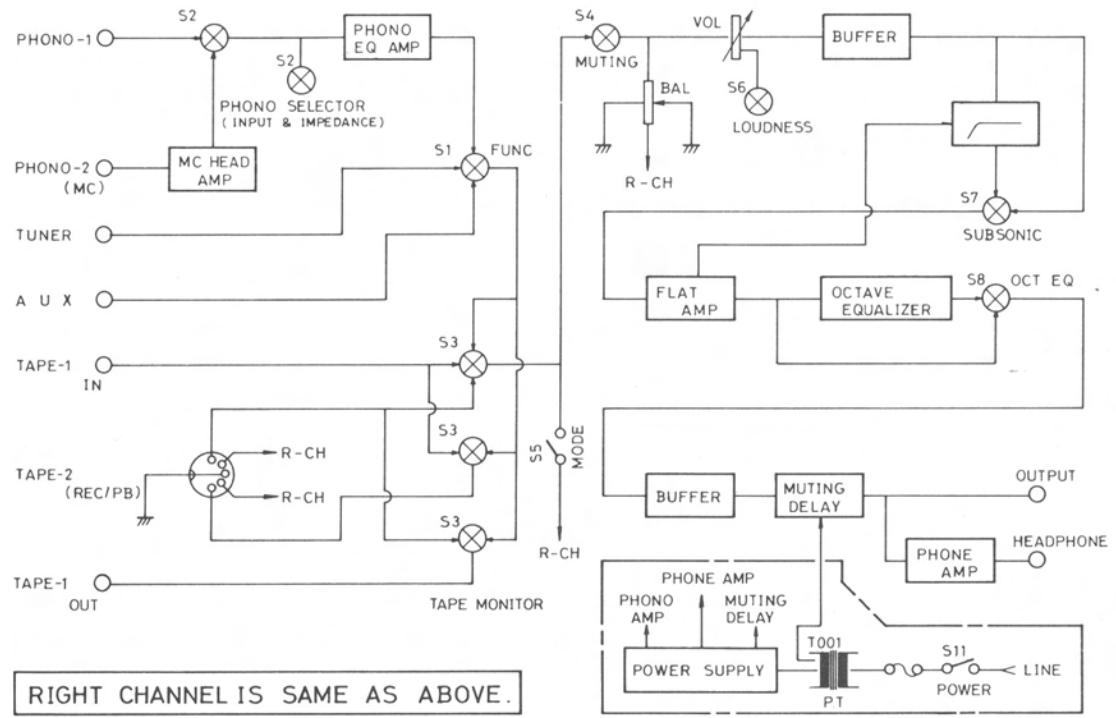
## RC-1000



1. Function Selector
2. Volume Control
3. Phono Selector
4. Tape Monitor Switch
5. VR710, 16kHz Control
6. VR709, 8 kHz Control
7. VR708, 4 kHz Control
8. VR705, 500Hz Control
9. VR702, 63 Hz Control
10. VR701, 32Hz Control
11. Power Switch
12. Acoustics Control PCB (X-332)
13. VR703, 125Hz Control
14. Headphone Amp PCB (X-334)
15. Power Supply PCB (B-143)
16. F902, Secondary Fuse
17. Power Transformer
18. F901, Primary Fuse
19. Voltage Selector
20. AC Outlet
21. VR704, 250 Hz Control
22. VR706, 1 kHz Control
23. Output Jacks
24. VR707, 2kHz Control
25. Tape Monitor Jacks
26. AUX Input Jacks
27. TUNER Input Jacks
28. PHONO Input Jacks
29. Phono Amp PCB (PR-118)
30. Muting PCB (X-335)
31. Resonator PCB (X-331)
32. Muting Switch PCB (X-329)
33. Tone Amp PCB (TC-152)

# Block Diagram

## RC-1000



# Addendum

## Models RA-1000 and RC-1000

1. Value of capacitor C505 (C506) on the tone amp circuit has been changed from 1 mfd to 4.7 mfd.

Reason: To reduce residual noise.

This modification has been made on the units with serial numbers NC18450 and over.

**Note:** Schematic diagram and PC board diagram given in this manual are showing the new value.

2. Specification for tape-monitor switch has been changed from non-short type to non-short/short type.

Reason: To suppress pop-noise produced when the switch is operated.

- Only new type switches will be supplied for repair.

# Specifications

| AMPLIFIER SECTION                                                                                   | RA-1000                                            | RB-1000                                             | RC-1000                                                                          |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------|
| Continuous Rated Power Output . . . . .<br>RMS, both channels driven<br>20Hz to 20,000Hz, 0.03% THD | 40W*/ch min at 8Ω . . . . .                        | 65W*/ch min at 8Ω<br>75W*/ch at 4Ω                  | Output voltage/Impedance<br>Rated output: 1V/1kΩ<br>Max. output: 3V, 0.1%<br>THD |
| Total Harmonic Distortion<br>20Hz to 20,000Hz                                                       |                                                    |                                                     |                                                                                  |
| Rated output . . . . .                                                                              | Less than 0.03% . . . . .                          | Less than 0.03% . . . . .                           | Less than 0.03%                                                                  |
| 1/2 rated output . . . . .                                                                          | Less than 0.01% . . . . .                          | Less than 0.01% . . . . .                           | —                                                                                |
| 1W power output . . . . .                                                                           | Less than 0.01% . . . . .                          | Less than 0.01% . . . . .                           | —                                                                                |
| Intermodulation Distortion<br>60Hz: 7,000Hz = 4:1 . . . . .                                         | Less than 0.03% . . . . .                          | Less than 0.01% . . . . .                           | —                                                                                |
| Damping Factor<br>20Hz to 20,000Hz, 8Ω . . . . .                                                    | 50 . . . . .                                       | 50 . . . . .                                        | —                                                                                |
| Frequency Response<br>+0dB, -1dB . . . . .                                                          | 5Hz to 70,000Hz . . . . .<br>(1W power output, 8Ω) | 5Hz to 100,000Hz . . . . .<br>(1W power output, 8Ω) | 5Hz to 70,000Hz                                                                  |
| Hum and Noise<br>IHF A-network . . . . .                                                            | 90dB (AUX, TUNER, . . . . .<br>TAPE IN)            | 110dB . . . . .                                     | 95dB (AUX, TUNER,<br>TAPE IN)                                                    |
| Residual (volume control set at min.) . . . . .                                                     | 1.2mV . . . . .                                    | 150μV . . . . .                                     | 50μV                                                                             |
| Input Sensitivity/Impedance . . . . .                                                               | 150mV/30kΩ . . . . .<br>(AUX, TUNER, TAPE IN)      | 1V/20kΩ . . . . .                                   | 150mV/30kΩ<br>(AUX, TUNER TAPE IN)                                               |
| Overload at 1,000Hz . . . . .                                                                       | 5V, 0.5% THD . . . . .<br>(AUX, TUNER, TAPE IN)    | — . . . . .                                         | 6V, 0.1% THD<br>(AUX, TUNER, TAPE IN)                                            |
| Crosstalk at 10,000Hz<br>(reverse channel input short-circuited)                                    | 45dB . . . . .<br>(AUX, TUNER, TAPE IN)            | 55dB . . . . .                                      | 45dB<br>(AUX, TUNER, TAPE IN)                                                    |

## PHONO SECTION

|                                         |                                |             |                      |
|-----------------------------------------|--------------------------------|-------------|----------------------|
| Equalization 20Hz to 20,000Hz . . . . . | RIAA STD ±0.5dB . . . . .      | — . . . . . | RIAA STD ±0.5dB      |
| Input Sensitivity/Impedance             |                                |             |                      |
| PHONO 1 (MM) . . . . .                  | 2.5mV/35k, 50k, 70kΩ . . . . . | — . . . . . | 2.5mV/35k, 50k, 70kΩ |
| PHONO 2 . . . . .                       | 2.5mV/50kΩ (MM) . . . . .      | — . . . . . | 120μV/30Ω (MC)       |
| Overload at 1,000Hz, 0.5% THD           |                                |             |                      |
| PHONO 1 (MM) . . . . .                  | 180mV . . . . .                | — . . . . . | 180mV                |
| PHONO 2 . . . . .                       | 180mV (MM) . . . . .           | — . . . . . | 10mV (MC)            |
| Hum and Noise (IHF A-network)           |                                |             |                      |
| PHONO 1 . . . . .                       | 75dB . . . . .                 | — . . . . . | 75dB                 |
| PHONO 2 . . . . .                       | 75dB (MM) . . . . .            | — . . . . . | 65dB (MC)            |

## CONTROL CHARACTERISTICS

|                                                            |                     |             |                 |
|------------------------------------------------------------|---------------------|-------------|-----------------|
| Octave Equalizer (each band)                               |                     |             |                 |
| Increase . . . . .                                         | +12dB±1dB . . . . . | — . . . . . | +12dB±1dB       |
| Decrease . . . . .                                         | -12dB±1dB . . . . . | — . . . . . | -12dB±1dB       |
| Loudness Contour (volume control<br>set at -40dB position) |                     |             |                 |
| At 100Hz . . . . .                                         | +10dB±1dB . . . . . | — . . . . . | +10dB±1dB       |
| At 10,000Hz . . . . .                                      | +4dB±1dB . . . . .  | — . . . . . | +4dB±1dB        |
| Audio Muting . . . . .                                     | -15dB . . . . .     | — . . . . . | -15dB           |
| Subsonic Filter . . . . .                                  | — . . . . .         | — . . . . . | .15Hz, 12dB/oct |

## PHONE AMPLIFIER SECTION

|                                          |             |             |                  |
|------------------------------------------|-------------|-------------|------------------|
| Harmonic Distortion at 1,000Hz . . . . . | — . . . . . | — . . . . . | 0.6%             |
| Frequency Response, +0dB, -3dB . . . . . | — . . . . . | — . . . . . | 50Hz to 60,000Hz |
| Hum and Noise, IHF A-network . . . . .   | — . . . . . | — . . . . . | 85dB             |
| Residual Noise . . . . .                 | — . . . . . | — . . . . . | 35μV             |
| Output Impedance . . . . .               | — . . . . . | — . . . . . | 4 to 16Ω         |
| Crosstalk at 10,000Hz . . . . .          | — . . . . . | — . . . . . | 40dB             |

## MISCELLANEOUS

|                             |                                                                       |
|-----------------------------|-----------------------------------------------------------------------|
| Power Requirement . . . . . | 120V/60Hz, 220V/50Hz, 240V/50Hz or 120, 220, 240/50-60Hz (switchable) |
| Power Consumption . . . . . | 300W max . . . . . 500W max . . . . . 16W max                         |

\*Measured pursuant to the Federal Trading Commission's Trade Regulation Rule on Power Claims for Amplifiers (applicable to the U.S.A. only).

NOTE: Specification and design subject to possible modification without notice.

# Repair Parts List

| Description                     | Part No.  | Schematic Location  |                     |                       |
|---------------------------------|-----------|---------------------|---------------------|-----------------------|
|                                 |           | RA-1000             | RB-1000             | RC-1000               |
| <b>TRANSISTORS</b>              |           |                     |                     |                       |
| 2SK130A(L), FET                 | 302001115 | —                   | —                   | Q401, 402             |
| 2SA921 (S or T)                 | 301001145 | Q904                | Q904, 906, 907      | Q403, 404             |
| 2SC1318 (S)                     | 301201155 | Q902                | Q902                | Q405                  |
| 2SC828 (R or S)                 | 301201115 | Q501, 502           | —                   | Q501, 502, 801 to 806 |
| μPA63H(M2) Dual FET             | 302001121 | Q601                | Q601                | —                     |
| 2SC1980                         | 301201171 | Q901, 903           | Q901, 903           | —                     |
| <b>DIODES</b>                   |           |                     |                     |                       |
| RD3.6EC, Zener 3.6V, 0.4W       | 300313039 | —                   | —                   | D401, 402             |
| WZ-162, Zener 16V, 0.5W         | 300313017 | D601                | D601                | —                     |
| WZ-067, Zener 6.7V, 0.5W        | 300313036 | D602                | D602                | —                     |
| 1S2472 (Si)                     | 300111010 | D903, 904, 905      | D903, 904, 905, 906 | D801, 802, 908        |
| WZ-052, Zener 5.2V, 0.5W        | 300313047 | —                   | —                   | D803, 804             |
| S-5VB-20, Rectifier             | 300919032 | D901                | D901                | —                     |
| RB-152, Rectifier               | 300919038 | —                   | —                   | D901                  |
| SR1K-4, Rectifier               | 300919024 | D902                | D902                | D902, 909             |
| WZ-240, Zener 24V, 0.5W         | 300313025 | —                   | —                   | D903, 904             |
| WZ-150, Zener 15V, 0.5W         | 300313027 | —                   | —                   | D905, 906             |
| BZ-240, Zener 24V, 1W           | 300313009 | D907, 908           | —                   | —                     |
| BZ-120, Zener 12V, 1W           | 300313004 | —                   | —                   | D907                  |
| BZ-140, Zener 14V, 1W           | 300313005 | D909, 910           | —                   | —                     |
| SEL-305GC, LED (GRN)            | 300414015 | D911                | D911                | D911                  |
| SEL-105RC, LED (RED)            | 300414014 | —                   | D912                | —                     |
| <b>IC'S</b>                     |           |                     |                     |                       |
| HA-1457W-02                     | 303452192 | IC401, 402          | —                   | IC401, 402            |
| NJM 4558-DD                     | 303452152 | IC501, 502          | —                   | IC501, 502            |
| SI-1440H                        | 303452219 | IC601               | —                   | —                     |
| SI-1460H                        | 303452220 | —                   | IC601               | —                     |
| NJM4558-D or -DV                | 303452215 | IC702 to 709        | —                   | IC701 to 710          |
| LA4170                          | 303452216 | —                   | —                   | IC851                 |
| <b>VARIABLE RESISTORS</b>       |           |                     |                     |                       |
| 250KWT, Balance Control         | 515121130 | VR501               | —                   | VR501                 |
| 300B, DC Balance Adj            | 510502187 | VR601               | VR601               | —                     |
| 100kW, Slide, Acoustic Control  | 581005051 | VR702 to 709        | —                   | VR701 to 710          |
| 100KBTx2, Volume Control        | 525321118 | VR001               | —                   | VR001                 |
| 20KB, Input Level Control       | 515321125 | —                   | VR001, 002          | —                     |
| <b>SWITCHES</b>                 |           |                     |                     |                       |
| Push 3-key, Function            | 614030827 | S1                  | —                   | S1                    |
| Slide, Remote, Phono            | 615212273 | S2                  | —                   | S2                    |
| Slide, Remote, Tape Monitor     | 615212272 | S3                  | —                   | S3                    |
| Push 1-key, Muting              | 614010144 | S4                  | —                   | S4                    |
| Push 4-key, Loudness, Etc.      | 614040828 | S5, 6, 7, 8 (1 set) | —                   | S5, 6, 7, 8 (1 set)   |
| Push 3-key, Speaker, Power      | 614030829 | S9, 10, 11 (1 set)  | —                   | S9, 10, 11 (1 set)    |
| Push 2-key, Speaker             | 614020433 | —                   | S9, 10 (1 set)      | —                     |
| Push 1-key, Power               | 614010138 | —                   | S11                 | —                     |
| <b>OTHERS</b>                   |           |                     |                     |                       |
| Antiparasitic Coil              | 228641126 | L601                | L601                | —                     |
| Relay, Speaker                  | 240111241 | RY901               | RY901               | —                     |
| Fuse, 3.5A-3AG, 120V Area       | 341222350 | F901                | —                   | —                     |
| Fuse, 1.6AT, φ5.2 (Europe, UK)  | 345952160 | F901                | —                   | —                     |
| Fuse, 5A-3AG, 120V Area         | 341222500 | —                   | F901                | —                     |
| Fuse, 2.5AT, φ5.2 (Europe, UK)  | 345952250 | —                   | F901                | —                     |
| Fuse, 0.5A-3AG, 120V Area       | 341222050 | —                   | —                   | F901, 902             |
| Fuse, 125mAT, φ5.2 (Europe, UK) | 345952012 | —                   | —                   | F901                  |
| Fuse, 100mAT, φ5.2 (Europe, UK) | 345952010 | —                   | —                   | F902                  |

# COMMON TO ALL MODELS

| Description                                            | Part No.  |
|--------------------------------------------------------|-----------|
| Remote Control Unit,* <sup>1</sup> Phono Sw            | 654101151 |
| Remote Control Unit,* <sup>1</sup> Tape Monitor        | 654101150 |
| Wire Ass'y,* <sup>1</sup> Phono Sw                     | 647110010 |
| Wire Ass'y,* <sup>1</sup> Tape Monitor                 | 647110008 |
| Pilot Indicator PCB Ass'y                              | 141810806 |
| Function Sw PCB Ass'y* <sup>1</sup>                    | 141810956 |
| Headphone Jack* <sup>1</sup>                           | 626110033 |
| Pin Jack, 4P w/DIN Socket* <sup>1</sup>                | 649201120 |
| Pin Jack, 4P* <sup>1</sup>                             | 624300204 |
| Pin Jack, 2P* <sup>2</sup>                             | 624200202 |
| Speaker Terminal, 4P* <sup>3</sup>                     | 642400111 |
| AC Outlet (Not used for UK)                            | 648211141 |
| Voltage Selector (Not used for Canada)                 | 648211247 |
| Fuse Clip (STD)                                        | 648211146 |
| Fuse Clip (Europe, UK)                                 | 648211147 |
| Closed End Terminal                                    | 643110012 |
| Noise Canceller, NSK-135 (120V)                        | 470101118 |
| " , X-type 0.047 (220/240V)                            | 470101122 |
| Line Cord (STD)                                        | 796301115 |
| " (Europe)                                             | 796301139 |
| " (Australia, etc)                                     | 796301140 |
| " (UK, etc)                                            | 796301138 |
| Cord Stopper (STD)                                     | 675201111 |
| " (Europe)                                             | 675201114 |
| " (UK, etc)                                            | 675201116 |
| " (Canada)                                             | 675201117 |
| Knob,* <sup>1</sup> Volume Control (Metallic Brown)    | 116310289 |
| " (Black)                                              | 116310290 |
| Knob,* <sup>1</sup> Phono, Tape Selector               |           |
| " (Metallic Brown)                                     | 116310285 |
| " (Black)                                              | 116310286 |
| Knob,* <sup>1</sup> Acoustics Control (Metallic Brown) | 116310291 |
| " (Black)                                              | 116310233 |
| Knob, Balance or Input Level Control                   |           |
| " (Metallic Brown)                                     | 116310287 |
| " (Black)                                              | 116310288 |
| Button,* <sup>1</sup> Muting, Loudness, etc            |           |
| " (Metallic Brown)                                     | 116210056 |
| " (Black)                                              | 116210057 |
| Button, Power, Speaker, etc (Metallic Brown)           | 116210058 |
| " (Black)                                              | 116210059 |
| Foot                                                   | 673402021 |
| Top Cover* <sup>3</sup>                                | 138011304 |
| Screws                                                 |           |
| ⊕ 3x6mm, Oval Countersunk (Ni)                         | 702213006 |
| ⊕ 3x10mm, Tapping (BLZ)                                | 726223010 |
| ⊕ 3x8mm, Tapping (Ni)                                  | 726213008 |
| ⊕ 3x8mm, Binding Head (BLZ)                            | 705223008 |
| 3x5.6mm, Flat Head (BLZ)                               | 770911166 |
| ⊕ 3x15mm, Binding Head (Ni)                            | 705213015 |
| ⊕ 3x10mm, Binding Head (Ni)                            | 705213010 |
| ⊕ 3x6mm, Binding Head (Ni)                             | 705213006 |
| ⊕ 3x12mm, Tapping (Ni)                                 | 726213012 |
| ⊕ 4x10mm, Binding Head (Ni)                            | 705214010 |
| ⊕ 3x6mm, Oval Countersunk (Ni)                         | 702213006 |
| ⊕ 3x6mm, Tapping, Oval Countersunk (Ni)                | 722213006 |
| ⊕ 3x6mm, Countersunk (Ni)                              | 701213006 |
| ⊕ 4x8mm, w/FW, Binding Head (BLZ)                      | 755224008 |
| ⊕ 3x9mm                                                | 770911130 |
| Ground Terminal                                        | 770911119 |
| Insert Screw, ℓ=8.5mm                                  | 770911132 |
| Washers                                                |           |
| φ3, Flat                                               | 770500003 |
| φ7, Flat                                               | 770500006 |
| φ3, Teethed                                            | 770500014 |
| φ4, Spring                                             | 770500011 |
| φ4, Flat                                               | 770500004 |

\*1: Not used on RB-1000

\*2: Not used on RA-1000

\*3: Not used on RC-1000

|             |           |
|-------------|-----------|
| Spacers     |           |
| φ2.7xφ10x3t | 990201231 |
| φ6xφ20x1t   | 990201306 |
| Nuts        |           |
| M3          | 770402201 |
| M4          | 770402202 |
| M7          | 770402205 |
| M12         | 770402209 |

## FOR RA-1000 ONLY

| Description                                      | Part No.  |
|--------------------------------------------------|-----------|
| Power Transformer (120/220/240V)                 | 207001482 |
| Phone Amp PCB Ass'y                              | 141510173 |
| Tone Amp PCB Ass'y                               | 141710326 |
| Main Amp PCB Ass'y without Power IC and Heatsink | 141610331 |
| Muting Switch PCB Ass'y                          | 141810949 |
| Power Supply PCB Ass'y (120V)                    | 141810961 |
| Power Supply PCB Ass'y (Europe, UK)              | 141810965 |
| Speaker Switch PCB Ass'y                         | 141810951 |
| Resonator PCB Ass'y                              | 141810954 |
| Acoustics Control PCB Ass'y                      | 141810956 |
| Front Panel Ass'y (Metallic Brown)               | 111911465 |
| " (Black)                                        | 111911466 |

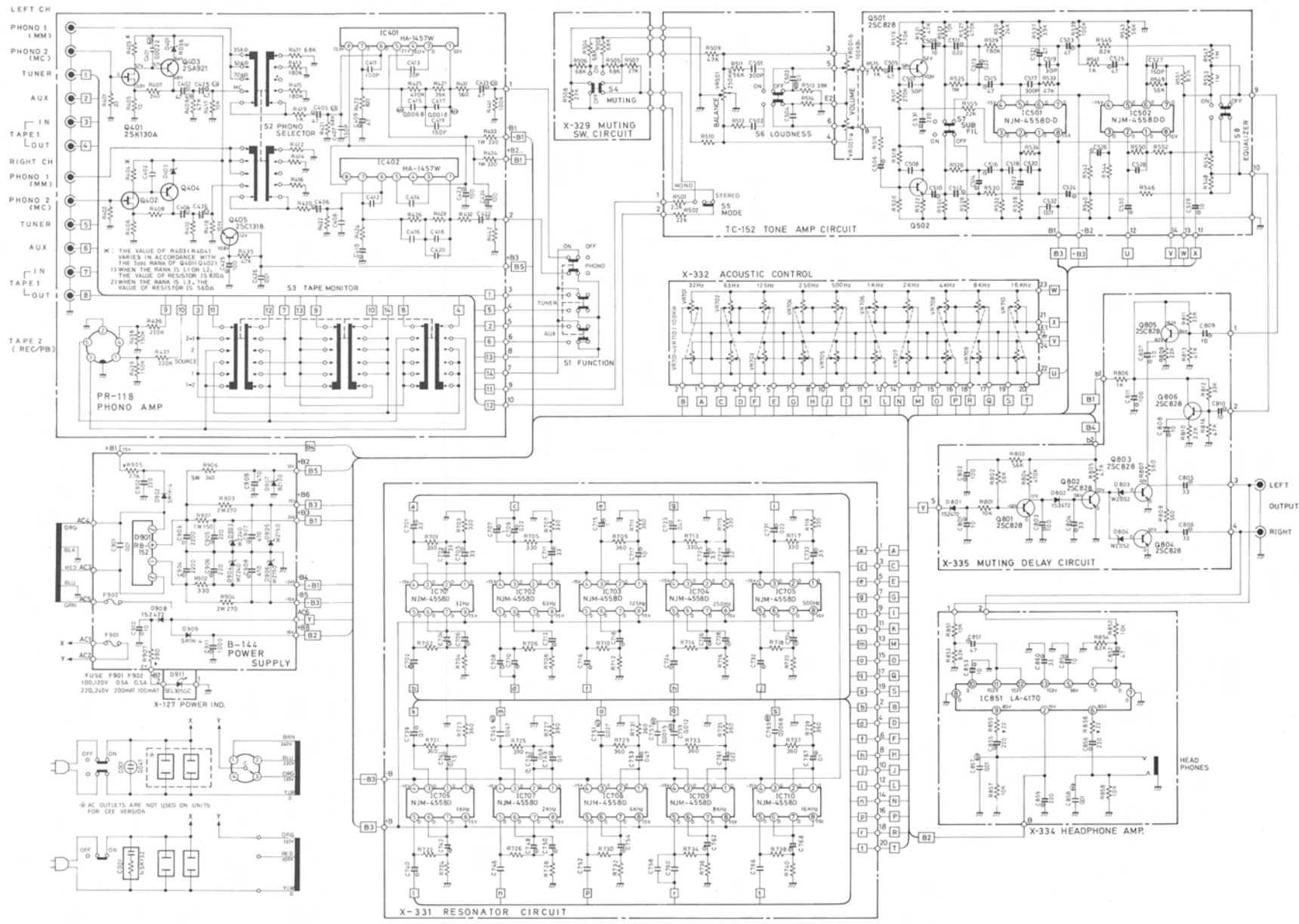
## FOR RB-1000 ONLY

| Description                                      | Part No.  |
|--------------------------------------------------|-----------|
| Power Transformer (120/220/240V)                 | 207001475 |
| Main Amp PCB Ass'y without Power IC and Heatsink | 141610332 |
| Speaker Switch PCB Ass'y                         | 141810952 |
| Protection Ind PCB Ass'y                         | 141810703 |
| Power Supply PCB Ass'y (120V)                    | 141810962 |
| Power Supply PCB Ass'y (Europe, UK)              | 141810966 |
| Front Panel Ass'y (Metallic Brown)               | 111911471 |
| " (Black)                                        | 111911472 |

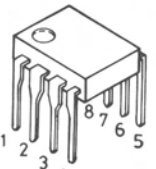
## FOR RC-1000 ONLY

| Description                        | Part No.  |
|------------------------------------|-----------|
| Power Transformer                  | 207001483 |
| Phono Amp PCB Ass'y                | 141510174 |
| Tone Amp PCB Ass'y                 | 141710327 |
| Muting Switch PCB Ass'y            | 141810950 |
| Power Supply PCB Ass'y (120V)      | 141810963 |
| " (Europe, UK)                     | 141810967 |
| Resonator PCB Ass'y                | 141810955 |
| Acoustics Control PCB Ass'y        | 141810957 |
| Headphone Amp PCB Ass'y            | 141810959 |
| Muting Delay PCB Ass'y             | 141810960 |
| Front Panel Ass'y (Metallic Brown) | 111911469 |
| " (Black)                          | 111911470 |
| Top Cover                          | 138011305 |
| Signal Cord Ass'y                  | 791001112 |

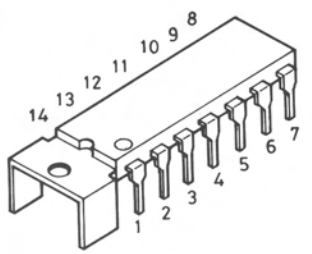




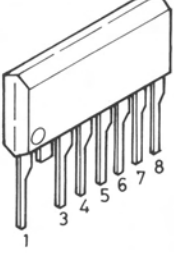
2SC1318  
2SC828  
2SA921



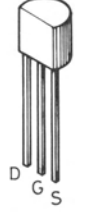
NMJ4558D  
NJM4558DD



LA4170



HA1457W



2SK130A

**RESISTORS**

5% tolerance unless otherwise noted.  
 K . . . . Kilohm  
 M . . . . Megohm  
 ▽ . . . . Nonflammable carbon film resistor, 1/2 watts  
 Unmarked . . Low noise type carbon resistor, 1/4 watts

**CAPACITORS**

T . . . . Tantalum capacitor  
 MY . . . Mylar film capacitor  
 LN . . . Low noise type capacitor  
 -E- . . . Electrolytic capacitor  
 Unmarked . . Ceramic capacitor

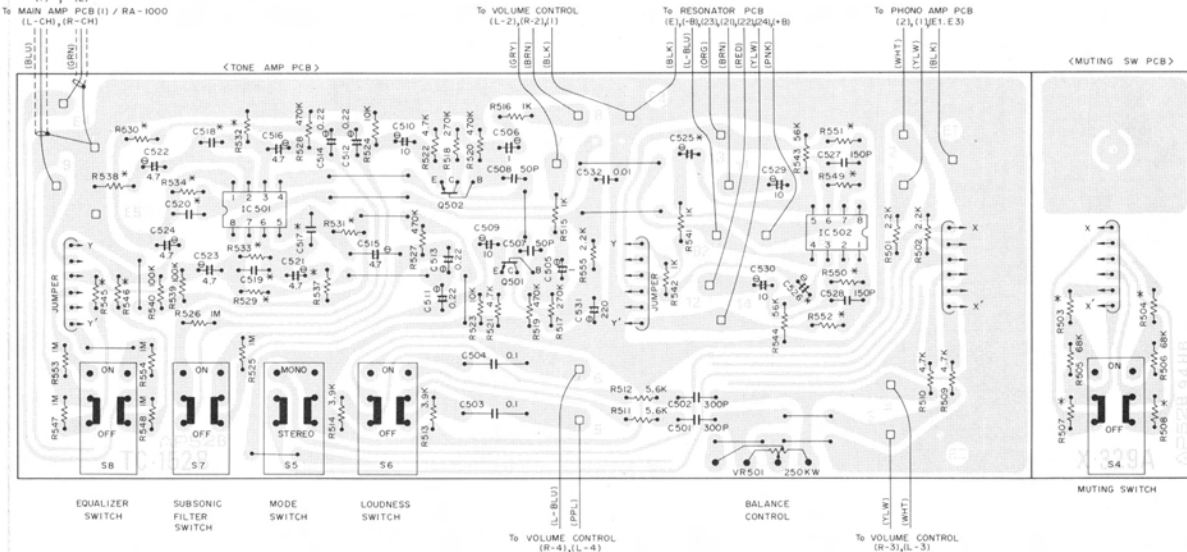
**Notes:**

- Unless otherwise noted in schematic diagram, all capacitance values are expressed in mfd.
- Voltage reading with VTVM from the point shown to the chassis ground (line voltage: 120 volts).
- Voltage reading tolerance: within ±20%

# Tone Amp Circuit and Muting Switch Circuit (RA-1000/RC-1000)

To MUTING DELAY PCB / RC-1000  
(1) , (2)

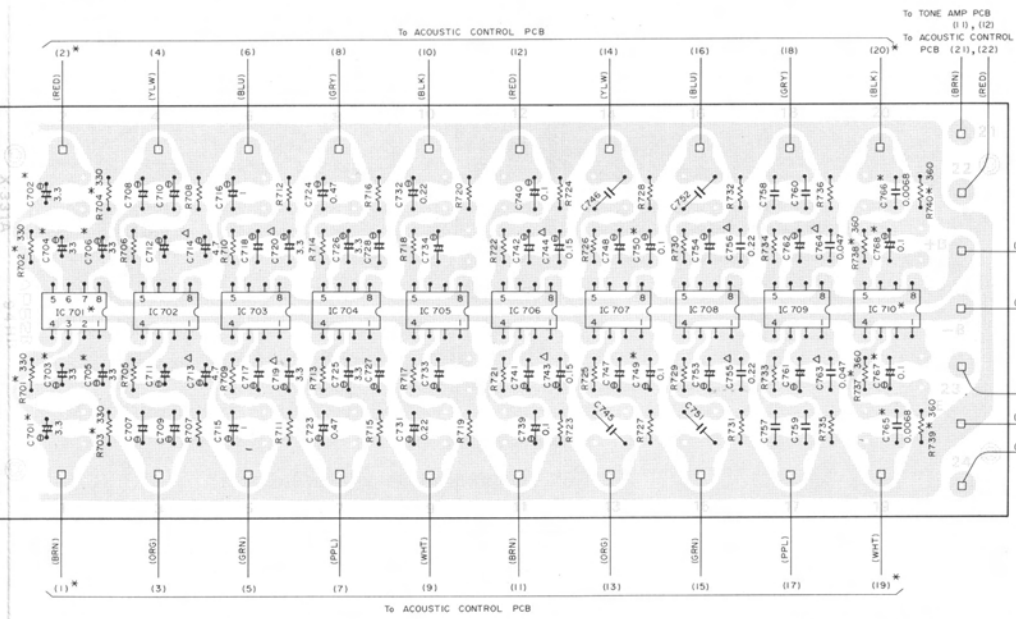
To MAIN AMP PCB (1) / RA-1000  
(L-4), (R-4)



| Schematic Location | RA-1000 | RC-1000 |
|--------------------|---------|---------|
| C517, 518          | 50P     | 300P    |
| C519, 520          | 10P     | 30P     |
| C525, 526          | 1 mfd   | 4.7 mfd |
| R503, 504          | 5.1kΩ   | 6.8kΩ   |
| R507, 508          | 22kΩ    | 27kΩ    |
| R529, 530          | 180kΩ   | 82kΩ    |
| R531, 532          | 27kΩ    | 24kΩ    |
| R533, 534          | 39kΩ    | 47kΩ    |
| R537, 538          | 10kΩ    | 3.9kΩ   |
| R545, 546          | 4.7kΩ   | 8.2kΩ   |
| R549, 550          | 12kΩ    | 5.6kΩ   |
| R551, 552          | 12kΩ    | 8.2kΩ   |

Notes: 1. Values of components with asterisk vary from model to model (see the attached table).  
2. Value of R507, 508: 22kΩ for RA-1000  
27kΩ for RC-1000

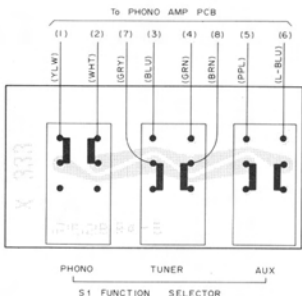
# Resonator Circuit (RA-1000/RC-1000)



| Schematic Location | RA-1000    | RC-1000    |
|--------------------|------------|------------|
| C707, 708          | 2.2 mfd    | 1 mfd      |
| C709, 710          | 0.47 mfd   | 0.22 mfd   |
| C711, 712          | 22 mfd     | 33 mfd     |
| C717, 718          | 4.7 mfd    | 10 mfd     |
| C727, 728          | 1 mfd      | 2.2 mfd    |
| C733, 734          | 2.2 mfd    | 3.3 mfd    |
| C741, 742          | 0.68 mfd   | 1.5 mfd    |
| C745, 746          | 0.39 mfd   | 0.047 mfd  |
| C747, 748          | 0.33 mfd   | 0.68 mfd   |
| C751, 752          | 0.018 mfd  | 0.027 mfd  |
| C753, 754          | 0.15 mfd   | 0.47 mfd   |
| C757, 758          | 0.0039 mfd | 0.012 mfd  |
| C759, 760          | 0.0059 mfd | 0.0015 mfd |
| C761, 762          | 0.039 mfd  | 0.22 mfd   |
| R705 to 708        | 470Ω       | 330Ω       |
| R709 to 712        |            | 360Ω       |
| R713 to 720        |            | 330Ω       |
| R721 to 724        | 560Ω       | 360Ω       |
| R725 to 728        |            | 390Ω       |
| R729 to 736        |            | 360Ω       |

Notes: \* : Not used on RA-1000.  
△ : Not used on RC-1000.  
Values of capacitors and resistors whose values are not given depend on models (see the attached table).

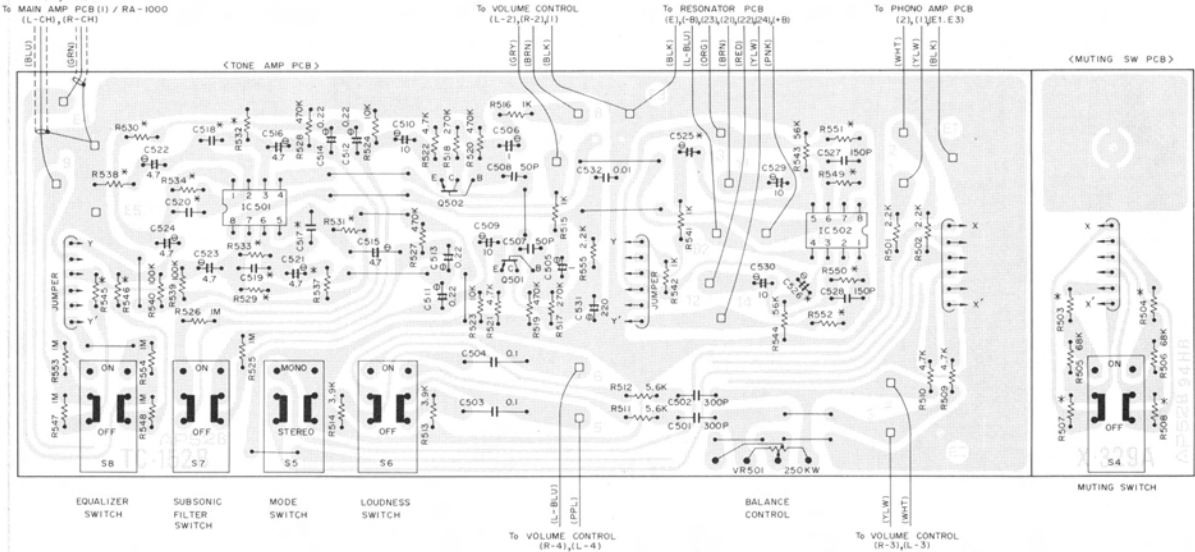
# Function Selector Circuit (RA-1000/RC-1000)



# Tone Amp Circuit and Muting Switch Circuit (RA-1000/RC-1000)

To MUTING DELAY PCB / RC-1000  
(1) , (2)

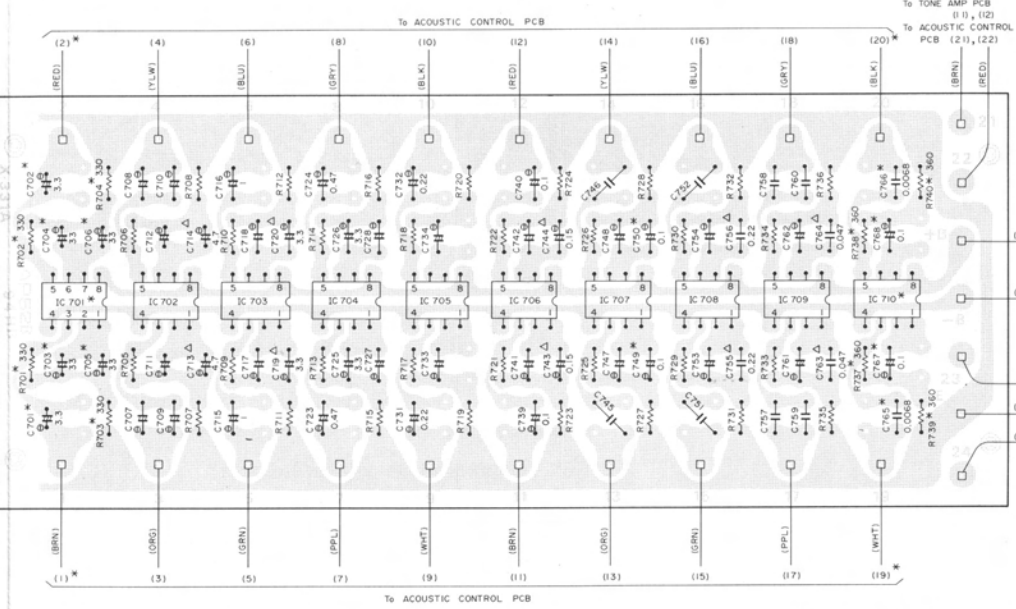
To MAIN AMP PCB (1) / RA-1000  
(L-4), (R-4)



| Schematic Location | RA-1000 | RC-1000 |
|--------------------|---------|---------|
| C517, 518          | 50P     | 300P    |
| C519, 520          | 10P     | 30P     |
| C525, 526          | 1 mfd   | 4.7 mfd |
| R503, 504          | 5.1kΩ   | 6.8kΩ   |
| R507, 508          | 22kΩ    | 27kΩ    |
| R529, 530          | 180kΩ   | 82kΩ    |
| R531, 532          | 27kΩ    | 24kΩ    |
| R533, 534          | 39kΩ    | 47kΩ    |
| R537, 538          | 10kΩ    | 3.9kΩ   |
| R545, 546          | 4.7kΩ   | 8.2kΩ   |
| R549, 550          | 12kΩ    | 5.6kΩ   |
| R551, 552          | 12kΩ    | 8.2kΩ   |

Notes: 1. Values of components with asterisk vary from model to model (see the attached table).  
2. Value of R507, 508: 22kΩ for RA-1000  
27kΩ for RC-1000

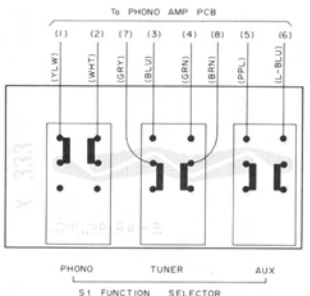
# Resonator Circuit (RA-1000/RC-1000)



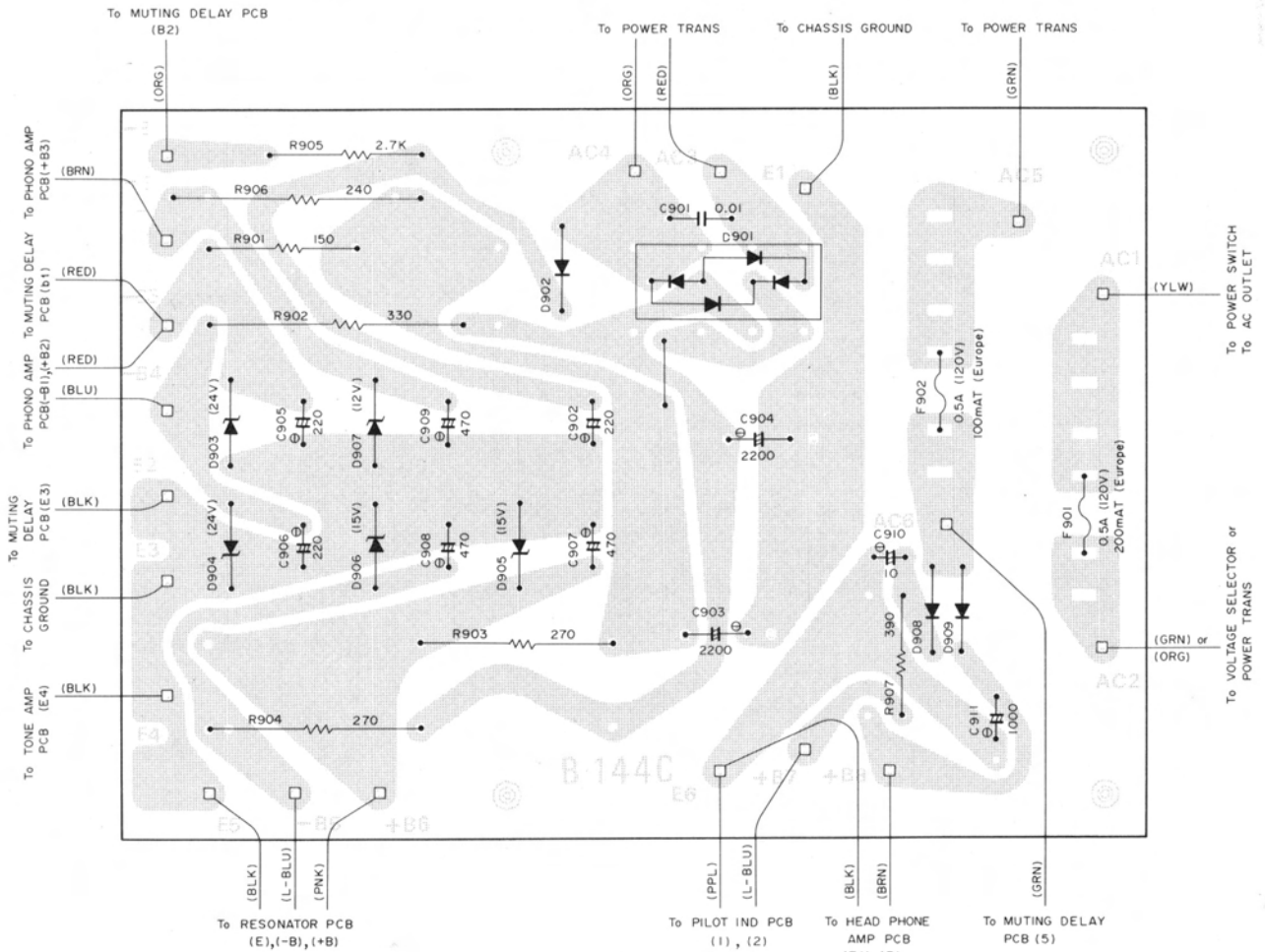
| Schematic Location | RA-1000    | RC-1000    |
|--------------------|------------|------------|
| C707, 708          | 2.2 mfd    | 1 mfd      |
| C709, 710          | 0.47 mfd   | 0.22 mfd   |
| C711, 712          | 22 mfd     | 33 mfd     |
| C717, 718          | 4.7 mfd    | 10 mfd     |
| C727, 728          | 1 mfd      | 2.2 mfd    |
| C733, 734          | 2.2 mfd    | 3.3 mfd    |
| C741, 742          | 0.68 mfd   | 1.5 mfd    |
| C745, 746          | 0.39 mfd   | 0.047 mfd  |
| C747, 748          | 0.33 mfd   | 0.68 mfd   |
| C751, 752          | 0.018 mfd  | 0.027 mfd  |
| C753, 754          | 0.15 mfd   | 0.47 mfd   |
| C757, 758          | 0.0039 mfd | 0.012 mfd  |
| C759, 760          | 0.0059 mfd | 0.0015 mfd |
| C761, 762          | 0.039 mfd  | 0.22 mfd   |
| R705 to 708        | 470Ω       | 330Ω       |
| R709 to 712        |            | 360Ω       |
| R713 to 720        |            | 330Ω       |
| R721 to 724        | 560Ω       | 360Ω       |
| R725 to 728        |            | 390Ω       |
| R729 to 736        |            | 360Ω       |

Notes: \* : Not used on RA-1000.  
△ : Not used on RC-1000.  
Values of capacitors and resistors whose values are not given depend on models (see the attached table).

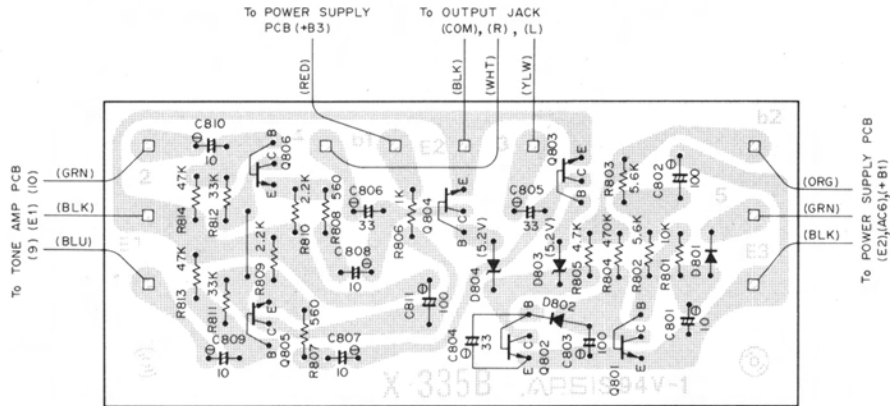
# Function Selector Circuit (RA-1000/RC-1000)



# Power Supply Circuit (RC-1000)



# Muting Delay Circuit (RC-1000)



# Headphone Amp Circuit (RC-1000)

