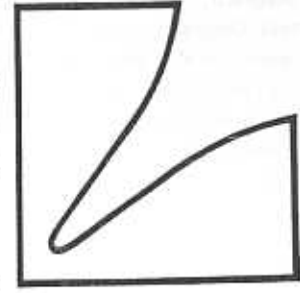
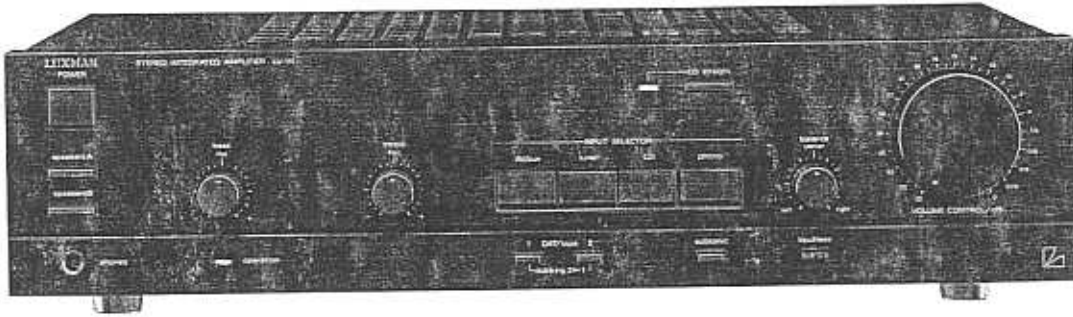


SERVICE MANUAL



Stereo Integrated Amplifier

LV-111/LV-110



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Specifications

| | |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Power-Output (LV-111 only) | 40W (0.05% THD at 20 Hz — 20 kHz) |
| (LV-110 only) | 30W (0.05% THD at 20 Hz — 20 kHz) |
| Input Sensitivity (1 kHz) | PHONO: 2.5 ± 0.25mV, CD: 150 ± 15mV TUNER: 150 ± 15mV, AV/AUX: 150 ± 15mV TAPE-2: 150 ± 15mV DAT: 150 ± 15mV |
| Input Impedance (1 kHz) | PHONO: 47K ohm, CD: 35K ohm TUNER: 35K ohm, AV/AUX: 35K ohm TAPE-2: 35K ohm DAT: 35K ohm |
| Frequency Response | PHONO (Rec Out): 100 Hz +13.09 ± 1 dB PHONO (Rec Out): 10 kHz -13.73 ± 1 dB AV/AUX (Speaker Terminal): 10 Hz — 70 kHz +1-3 dB |
| Signal to Noise Ratio | PHONO: 76 dB, CD: 89 dB, TUNER: 89 dB AV/AUX: 89 dB, TAPE-2: 89 dB DAT: 89 dB |
| Power Supply | AD: 100/120/220/240V (50/60 Hz) UQ: 120V (60 Hz) |
| Power Consumption | 230W |
| Semiconductors | 4 IC's, 25 Transistors, 20 Diodes, 6 Zener Diodes, 2 LED's |
| Dimension | 438(W) x 110(H) x 278(D) mm |
| Weight (Net) | LV-111: 6.3 kg LV-110: 6.0 kg |
| Note: LV-111 | AD, UQ model only |
| LV-110 | AD, UQ model only |

NOTE: Due to continuing product improvement, specifications and design are subject to change without notice.

Parts Locations and Disassembly Instructions

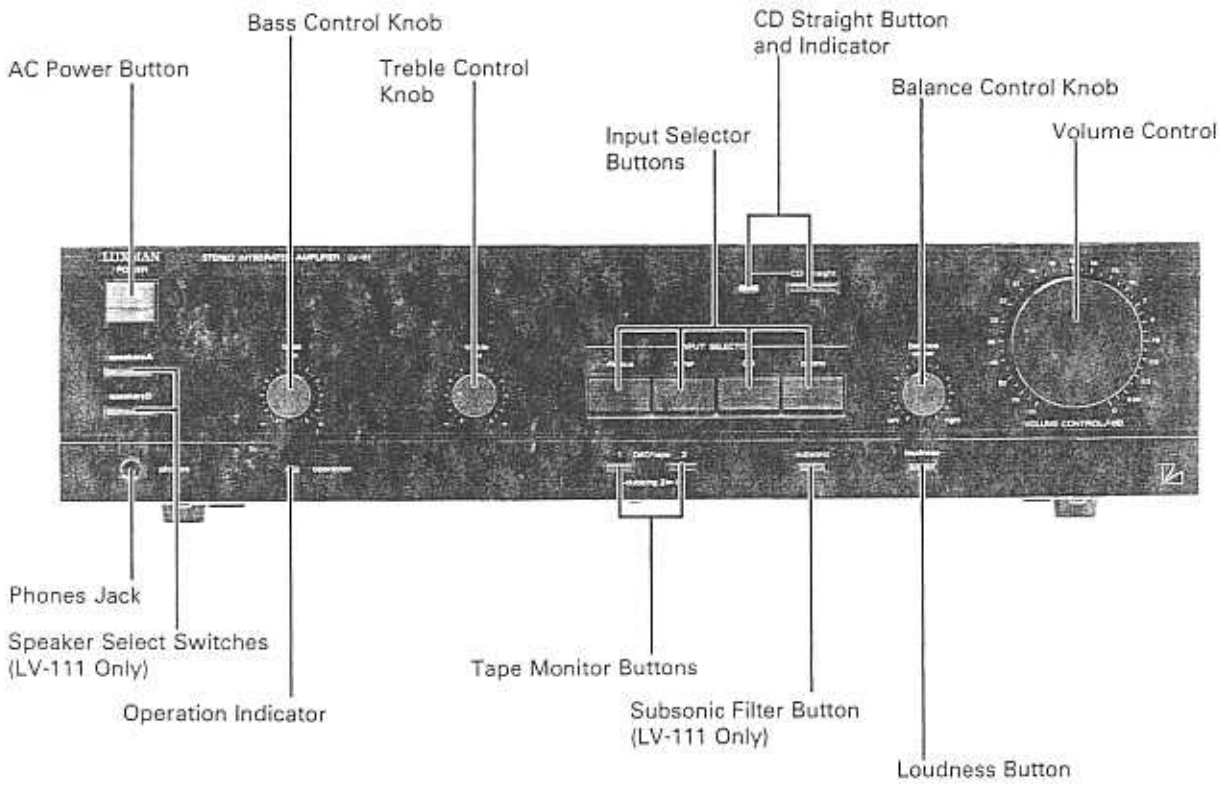


Figure 1

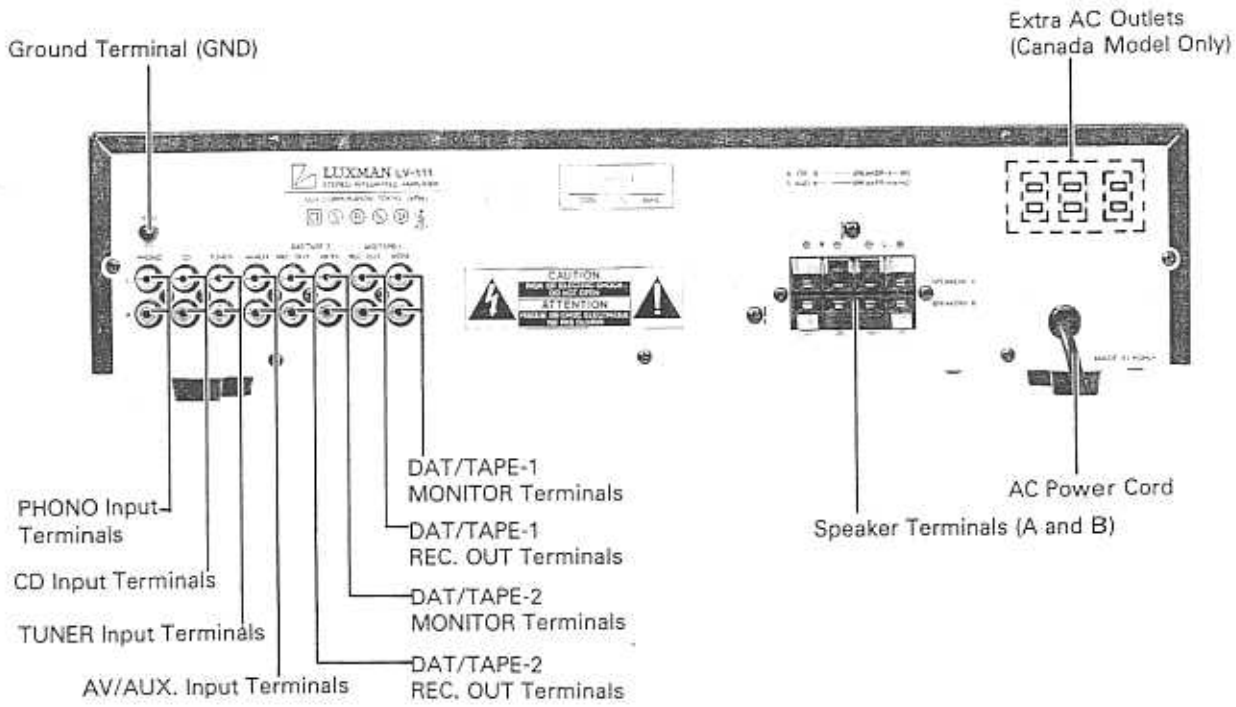


Figure 2

1. Removal of Top Cover

- (1) Remove six screws marked "○" as shown in Figures 3 and 4.
- (2) Pull out the Top Cover in the Direction of the arrow as shown in Figure 3.

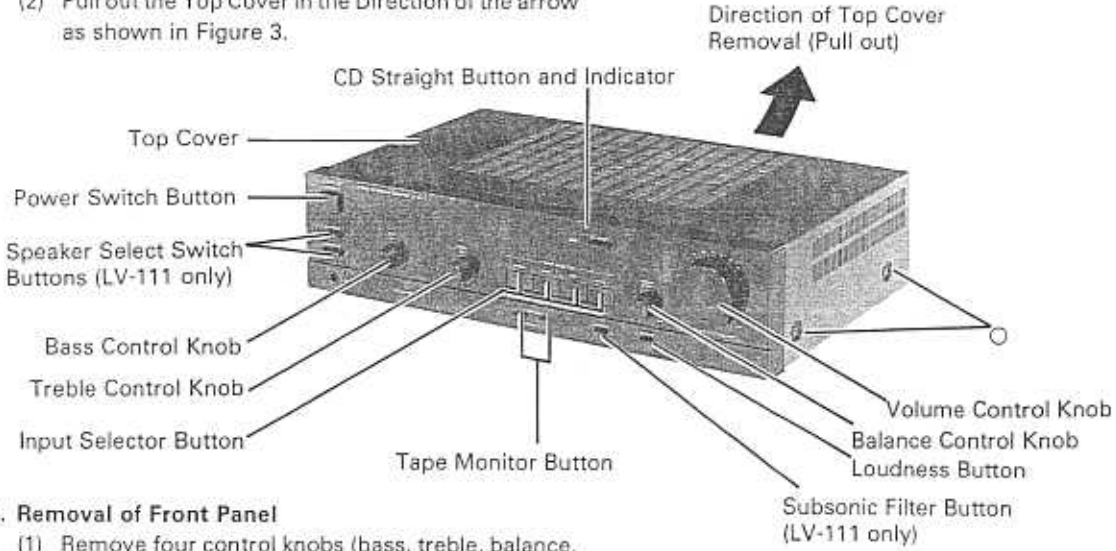


Figure 3

2. Removal of Front Panel

- (1) Remove four control knobs (bass, treble, balance, volume) as shown in Figure 3.
- (2) Remove six screws marked "△" as shown in Figures 4 and 5.

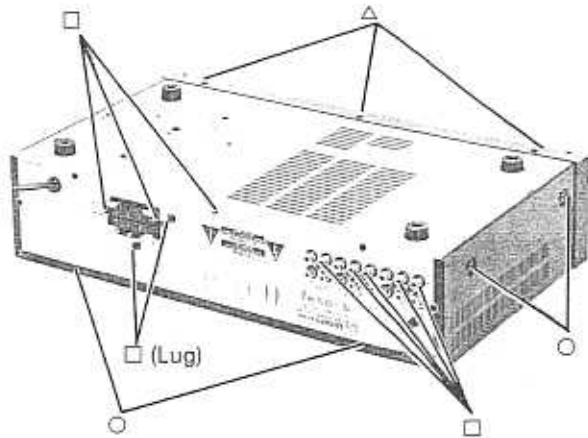


Figure 4

3. Removal of Power Switch P.C. Board

- (1) Remove the Power Switch knob as shown in Figure 3.
- (2) Remove two screws marked "※" as shown in Figure 6.
- (3) Disconnect all wires from the P.C. Board.

4. Removal of Speaker Switch P.C. Board

- (1) Remove two speaker select switch knobs as shown in Figure 3. (LV-111 only)
- (2) Remove a screw marked "□" as shown in Figure 6. (LV-111 only)
- (3) Remove a stopper securing the phones jack marked "⊙" as shown in Figure 6.
- (4) Disconnect all wires from the P.C. Board.

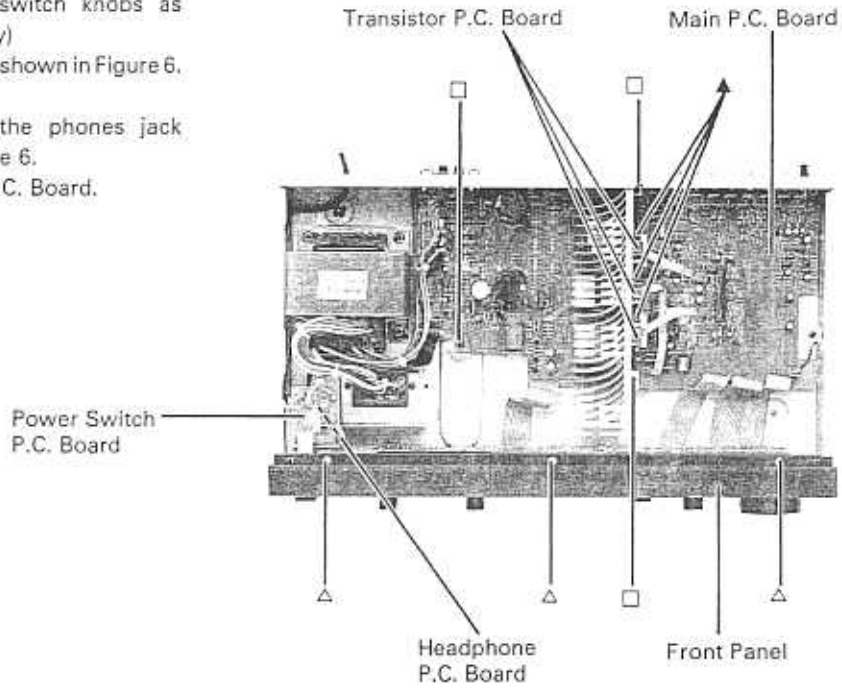


Figure 5

5. Removal of Control P.C. Board

- (1) Remove four knobs (Input Selector), and five knobs (Tape Monitor, CD Straight Switch, Subsonic Filter Switch (LV-111 only), Loudness Switch) as shown in Figure 3.
- (2) Remove four nuts and four washers (Nut A, Washer A, Nut B, Washer B, Nut C, Washer C, Nut D, Washer D) as shown in Figure 6.
- (3) Remove 10 screws marked "●" as shown in Figure 6.
- (4) Disconnect all wires from the P.C. Board.

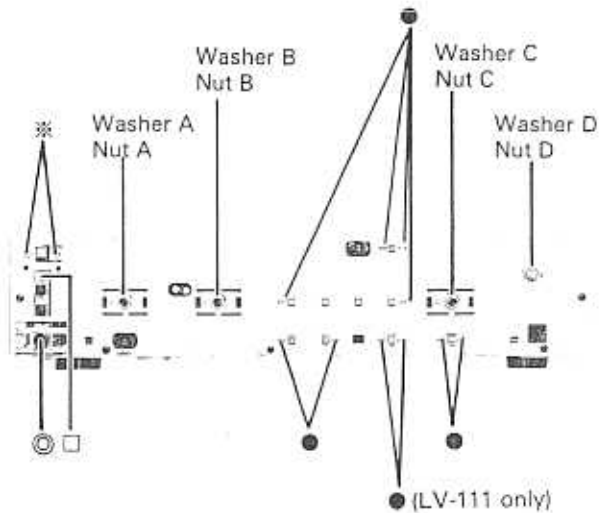


Figure 6

6. Removal of Transistor P.C. Boards

- (1) Remove 3 screws marked "▲" as shown in Figure 5.
- (2) Disconnect all wires from the P.C. Boards.

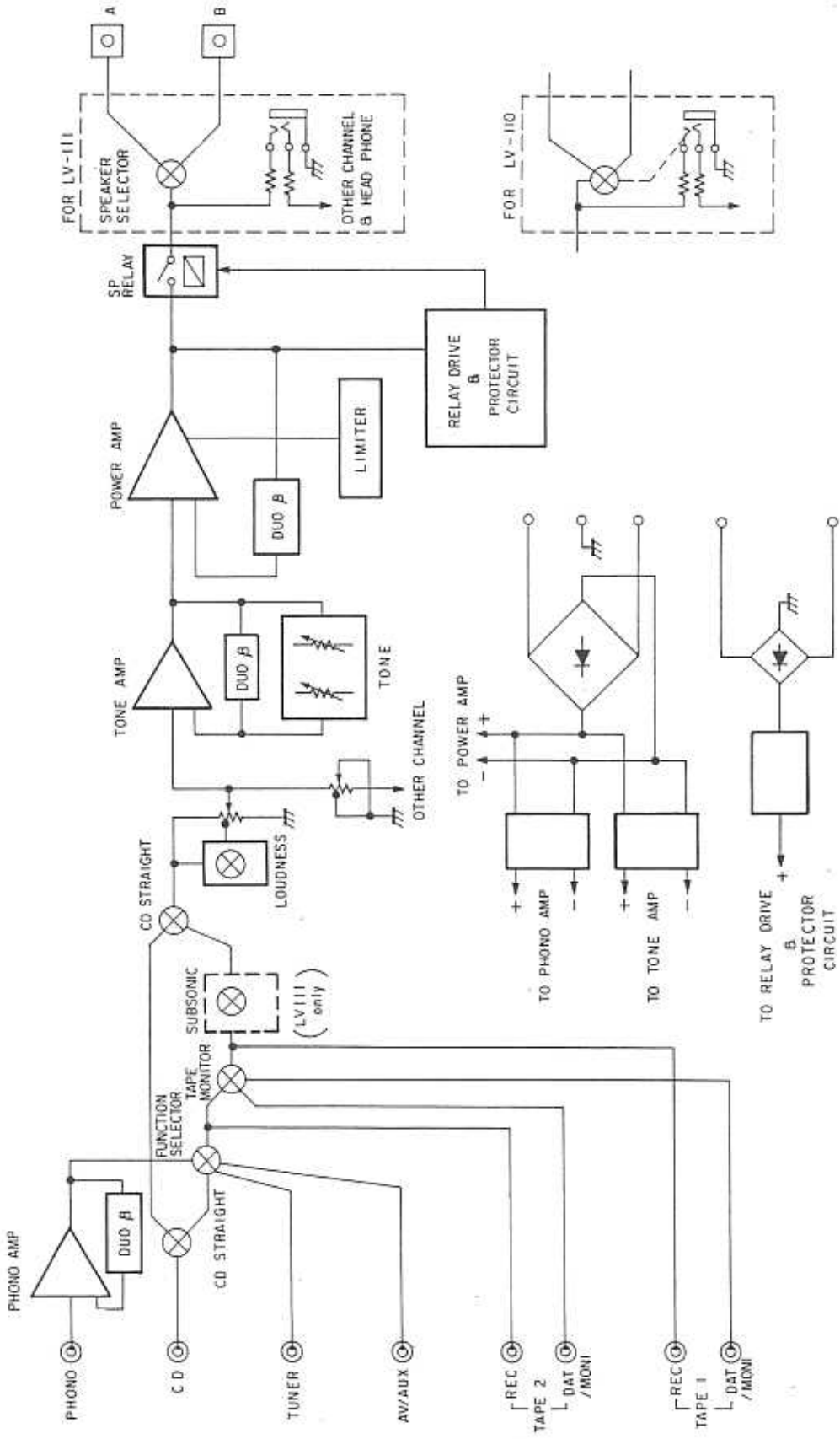
7. Removal of Main P.C. Board

- (1) Remove 11 screws and two lugs marked "□" as shown in Figures 4 and 5.
To remove the lugs on the rear cover, remove the screws first, then straighten the lugs, and pull them.
- (2) Disconnect all wires from the P.C. Board.

8. Removal of Heat Sink from Main P.C. Board

- (1) Remove two screws from the foil side of the Main P.C. Board.
- (2) Disconnect seven transistors connected with the heat sink.

Block Diagram



Electrical Parts List

Resistor: Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
uF=microfarads, pF=picofarads

| Abbreviations | | | | Symbol No. | Part No. | Description | | |
|-------------------------|---------------------|-------------------------------|--|------------|----------|-------------|--|--|
| RES. = Resistor | CAP. = Capacitor | | | | | | | |
| C.F. = Carbon Film | ELY. = Electrolytic | | | | | | | |
| M.F. = Metal Film | CER. = Ceramic | | | | | | | |
| M.O. = Metal Oxide Film | MYL. = Mylar | | | | | | | |
| M.P. = Metal Plate | TAN. = Tantalum | | | | | | | |
| CMT. = Cement Resistor | POLY. = Polystyrol | | | | | | | |
| TR. = Transistor | PP. = Polypropylene | | | | | | | |
| TRANS. = Transformer | PLT. = Polyethylene | | | | | | | |
| CP. = Chip | STR. = Styrene | | | | | | | |
| | M-PL. = M-Plastic | | | | | | | |
| Symbol No. | Part No. | Description | | | | | | |
| Main P. C. Board | | | | | | | | |
| IC's | | | | | | | | |
| IC101 | 51T72167F01 | M5220L | | | | | | |
| IC301 | 51T68833F02 | STK3042M-3 | | | | | | |
| IC501 | 51T68833F01 | L78M15 | | | | | | |
| Transistors | | | | | | | | |
| Q301 | 48T52979F01 | 2SD600 | | | | | | |
| Q302 | 48T52979F01 | 2SD600 | | | | | | |
| Q303 | 48T68663F01 | 2S8631 | | | | | | |
| Q304 | 48T68663F01 | 2S8631 | | | | | | |
| * Q305 | 48T45382F01 | 2SD1047 | | | | | | |
| * Q306 | 48T45382F01 | 2SD1047 | | | | | | |
| * Q307 | 48T45381F01 | 2S8817 | | | | | | |
| * Q308 | 48T45381F01 | 2S8817 | | | | | | |
| Q341 | 48T81102F01 | 2SA1015 | | | | | | |
| Q342 | 48T81102F01 | 2SA1015 | | | | | | |
| Q343 | 48T81101F01 | 2SC1815 | | | | | | |
| Q344 | 48T81101F01 | 2SC1815 | | | | | | |
| Q345 | 48T81101F01 | 2SC1815 | | | | | | |
| Q346 | 48T81101F01 | 2SC1815 | | | | | | |
| Q347 | 48T81102F01 | 2SA1015 | | | | | | |
| Q348 | 48T81102F01 | 2SA1015 | | | | | | |
| Q401 | 48T81101F01 | 2SC1815 | | | | | | |
| Q402 | 48T81101F01 | 2SC1815 | | | | | | |
| Q403 | 48T81102F01 | 2SA1015 | | | | | | |
| Q405 | 48T81101F01 | 2SC1815 | | | | | | |
| Q406 | 48T81101F01 | 2SC1815 | | | | | | |
| Q407 | 48T43015U01 | 2SC2120 | | | | | | |
| Diodes | | | | | | | | |
| D301 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D302 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D303 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D304 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D305 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D306 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D307 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D308 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D401 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D402 | 48E04616S01 | Silicon IN4148 | | | | | | |
| D403 | 48T44992F01 | Silicon DS135D | | | | | | |
| D501 | 48E04617S01 | Silicon 3D2-61 | | | | | | |
| D502 | 48E04617S01 | Silicon 3D2-61 | | | | | | |
| D503 | 48E04617S01 | Silicon 3D2-61 | | | | | | |
| D504 | 48E04617S01 | Silicon 3D2-61 | | | | | | |
| D505 | 48T44992F01 | Silicon DS135D | | | | | | |
| D506 | 48T44992F01 | Silicon DS135D | | | | | | |
| D507 | 48T44992F01 | Silicon DS135D | | | | | | |
| D508 | 48T44992F01 | Silicon DS135D | | | | | | |
| D509 | 48E01750S01 | Zener GZA15Y | | | | | | |
| D510 | 48E01750S01 | Zener GZA15Y | | | | | | |
| D511 | 48E01752S01 | Zener GZA18Y | | | | | | |
| D512 | 48E01752S01 | Zener GZA18Y | | | | | | |
| D513 | 48T44992F01 | Silicon DS135D | | | | | | |
| Coils/Relay | | | | | | | | |
| L301 | 24E04618S01 | Air Coil L/R | | | | | | |
| L302 | 24E04618S01 | Air Coil L/R | | | | | | |
| RY301 | 80E04619S01 | Relay | | | | | | |
| Jacks | | | | | | | | |
| JK101 | 09E04620S01 | RCA Jack (CD/ PHONO/TUNER) | | | | | | |
| JK102 | 09E04620S01 | RCA Jack (AUX/ REC2/MON2) | | | | | | |
| JK103 | 09E04621S01 | RCA Jack (REC1/ DAT) | | | | | | |

NOTE: The power transistors marked by * (Q305, Q306, Q307 and Q308) should be used with the insulation sheets 14E04788S01.

| Symbol No. | Part No. | Description | | Symbol No. | Part No. | Description | |
|------------|-------------|------------------------|--|------------|-------------|------------------------|--|
| Capacitors | | | | | | | |
| C101 | 21E04622S05 | CER., 68pF | | C321 | 23E04624S03 | ELY., 22 μ F/50V | |
| C102 | 21E04622S05 | CER., 68pF | | C322 | 23E04624S03 | ELY., 22 μ F/50V | |
| C103 | 21E04623S01 | CER., 220pF | | ▲ C323 | 21E04629S02 | CER., 2200pF | |
| C104 | 21E04623S01 | CER., 220pF | | △ C323 | 21E04629S02 | CER., 2200pF | |
| C105 | 23E04624S01 | ELY., 2.2 μ F/50V | | ● C323 | 21E04631S01 | CER., 0.01 μ F | |
| C106 | 23E04624S01 | ELY., 2.2 μ F/50V | | ○ C323 | 21E04631S01 | CER., 0.01 μ F | |
| C107 | 23E04625S01 | ELY., 47 μ F/16V | | ▲ C324 | 21E04629S02 | CER., 2200pF | |
| C108 | 23E04625S01 | ELY., 47 μ F/16V | | △ C324 | 21E04629S02 | CER., 2200pF | |
| C109 | 08E04626S01 | MYL., 0.056 μ F | | ● C324 | 21E04631S01 | CER., 0.01 μ F | |
| C110 | 08E04626S01 | MYL., 0.056 μ F | | ○ C324 | 21E04631S01 | CER., 0.01 μ F | |
| C111 | 08E04626S02 | MYL., 0.015 μ F | | ▲ C325 | 21E04629S02 | CER., 2200pF | |
| C112 | 08E04626S02 | MYL., 0.015 μ F | | △ C325 | 21E04629S02 | CER., 2200pF | |
| C113 | 23E04624S02 | ELY., 0.47 μ F/50V | | ● C325 | 21E04631S01 | CER., 0.01 μ F | |
| C114 | 23E04624S02 | ELY., 0.47 μ F/50V | | ○ C325 | 21E04631S01 | CER., 0.01 μ F | |
| C115 | 23E04627S01 | ELY., 47 μ F/25V | | ▲ C325 | 21E04629S02 | CER., 2200pF | |
| C116 | 23E04627S01 | ELY., 47 μ F/25V | | △ C326 | 21E04629S02 | CER., 2200pF | |
| ● C117 | 21E04734S02 | CER., 680pF | | ● C326 | 21E04631S01 | CER., 0.01 μ F | |
| ○ C117 | 21E04734S02 | CER., 680pF | | ○ C326 | 21E04631S01 | CER., 0.01 μ F | |
| ● C118 | 21E04734S02 | CER., 680pF | | C327 | 23E04627S02 | ELY., 22 μ F/25V | |
| ○ C118 | 21E04734S02 | CER., 680pF | | C328 | 23E04627S02 | ELY., 22 μ F/25V | |
| C131 | 21E04623S02 | CER., 680pF | | C341 | 21E04632S01 | CER., 2200pF | |
| C132 | 21E04623S02 | CER., 680pF | | C342 | 21E04632S01 | CER., 2200pF | |
| C133 | 21E04623S02 | CER., 680pF | | C343 | 21E04632S01 | CER., 2200pF | |
| C134 | 21E04623S02 | CER., 680pF | | C344 | 21E04632S01 | CER., 2200pF | |
| C135 | 21E04623S02 | CER., 680pF | | C345 | 23E04625S02 | ELY., 10 μ F/16V | |
| C136 | 21E04623S02 | CER., 680pF | | C346 | 23E04625S02 | ELY., 10 μ F/16V | |
| C137 | 21E04623S02 | CER., 680pF | | C347 | 23E04625S02 | ELY., 10 μ F/16V | |
| C138 | 21E04623S02 | CER., 680pF | | C348 | 23E04625S02 | ELY., 10 μ F/16V | |
| C139 | 21E04623S02 | CER., 680pF | | C401 | 23E04625S03 | ELY., 220 μ F/16V | |
| C140 | 21E04623S02 | CER., 680pF | | C402 | 23E04625S03 | ELY., 220 μ F/16V | |
| C301 | 21E04623S03 | CER., 330pF | | C403 | 23E04633S01 | ELY., 0.47 μ F/50V | |
| C302 | 21E04623S03 | CER., 330pF | | C404 | 23E04625S04 | ELY., 33 μ F/16V | |
| C303 | 23E04624S01 | ELY., 2.2 μ F/50V | | C501 | 21E04634S01 | CER., 0.047 μ F | |
| C304 | 23E04624S01 | ELY., 2.2 μ F/50V | | C502 | 21E04634S01 | CER., 0.047 μ F | |
| C305 | 21E04628S01 | CER., 470pF | | C503 | 21E04634S01 | CER., 0.047 μ F | |
| C306 | 21E04628S01 | CER., 470pF | | C504 | 21E04634S01 | CER., 0.047 μ F | |
| C307 | 21E04629S01 | CER., 1500pF | | ○ C505 | 23E04635S01 | ELY., 4700 μ F/50V | |
| C308 | 21E04629S01 | CER., 1500pF | | △ C505 | 23E04635S01 | ELY., 4700 μ F/50V | |
| C309 | 21E04622S02 | CER., 47pF | | ● C505 | 23E04635S02 | ELY., 6800 μ F/50V | |
| C310 | 21E04622S02 | CER., 47pF | | ▲ C505 | 23E04635S02 | ELY., 6800 μ F/50V | |
| C311 | 08E04630S01 | M-PL., 0.1 μ F | | ○ C506 | 23E04635S01 | ELY., 4700 μ F/50V | |
| C312 | 08E04630S01 | M-PL., 0.1 μ F | | △ C506 | 23E04635S01 | ELY., 4700 μ F/50V | |
| C313 | 21E04622S06 | CER., 33pF | | ● C506 | 23E04635S02 | ELY., 6800 μ F/50V | |
| C314 | 21E04622S06 | CER., 33pF | | ▲ C506 | 23E04635S02 | ELY., 6800 μ F/50V | |
| C315 | 21E04628S02 | CER., 100pF | | C507 | 23E04636S01 | ELY., 2200 μ F/25V | |
| C316 | 21E04628S02 | CER., 100pF | | C508 | 23E04624S01 | ELY., 2.2 μ F/50V | |
| C317 | 21E04628S02 | CER., 100pF | | C611 | 21E04637S01 | CER., 0.022 μ F | |
| C318 | 21E04628S02 | CER., 100pF | | C612 | 21E04637S01 | CER., 0.022 μ F | |
| C319 | 08E04626S03 | MYL., 0.047 μ F | | C613 | 21E04637S01 | CER., 0.022 μ F | |
| C320 | 08E04626S03 | MYL., 0.047 μ F | | ▲ C614 | 21E04629S02 | CER., 2200pF | |

Notes : ● : For LV-111 multivoltage model (AD), ▲ : For LV-111 Canadian model (UQ),
○ : For LV-110 multivoltage model (AD), △ : For LV-110 Canadian model (UQ), Others : Common.

| Symbol No. | Part No. | Description | | | Symbol No. | Part No. | Description | | |
|------------|-------------|------------------------|--|--|---------------------|-------------|---------------------------|--|--|
| △ C614 | 21E04629S02 | CER., 2200pF | | | Control P. C. Board | | | | |
| ● C614 | 21E04631S03 | CER., 0.022 μ F | | | IC/Diodes | | | | |
| ○ C614 | 21E04631S03 | CER., 0.022 μ F | | | IC201 | 51T65380F01 | BA4558HT | | |
| ▲ C615 | 21E04629S02 | CER., 2200pF | | | D201 | 48E04647S01 | Zener GZA11Y | | |
| △ C615 | 21E04629S02 | CER., 2200pF | | | D202 | 48E04647S01 | Zener GZA11Y | | |
| ● C615 | 21E04631S03 | CER., 0.022 μ F | | | LD201 | 48E04648S01 | LED (Red) | | |
| ○ C615 | 21E04631S03 | CER., 0.022 μ F | | | LD202 | 48E04648S01 | LED (Red) | | |
| C616 | 21E04637S01 | CER., 0.022 μ F | | | Switches | | | | |
| ● C617 | 21E04638S01 | CER., 2200pF | | | SW201 | 40E04649S01 | Push Switch (Function) | | |
| ○ C617 | 21E04638S01 | CER., 2200pF | | | SW202 | 40E04650S01 | Push Switch (CD Straight) | | |
| ● C618 | 21E04637S02 | CER., 0.047 μ F | | | SW203 | 40E04651S01 | Push Switch (Monitor) | | |
| ○ C618 | 21E04637S02 | CER., 0.047 μ F | | | SW204 | 40E04652S01 | Push Switch (Loudness) | | |
| ● C619 | 21E04637S02 | CER., 0.047 μ F | | | ● SW205 | 40E04652S01 | Push Switch (Subsonic) | | |
| ○ C619 | 21E04637S02 | CER., 0.047 μ F | | | ▲ SW205 | 40E04652S01 | Push Switch (Subsonic) | | |
| Resistors | | | | | Capacitors | | | | |
| R317 | 06E04639S01 | M.O., 33 ohm 1W | | | C201 | 23E04653S01 | ELY., 2.2 μ F/50V | | |
| R318 | 06E04639S01 | M.O., 33 ohm 1W | | | C202 | 23E04653S01 | ELY., 2.2 μ F/50V | | |
| R319 | 06E04639S01 | M.O., 33 ohm 1W | | | C203 | 21E04622S02 | CER., 47pF | | |
| R320 | 06E04639S01 | M.O., 33 ohm 1W | | | C204 | 21E04622S02 | CER., 47pF | | |
| R327 | 06E04639S02 | M.O., 10 ohm 1W | | | C205 | 21E04622S02 | CER., 47pF | | |
| R328 | 06E04639S02 | M.O., 10 ohm 1W | | | C206 | 21E04622S02 | CER., 47pF | | |
| R329 | 06E04640S01 | M.O., 10 ohm 2W | | | C207 | 21E04622S04 | CER., 15pF | | |
| R330 | 06E04640S01 | M.O., 10 ohm 2W | | | C208 | 21E04622S04 | CER., 15pF | | |
| R331 | 06E04639S03 | M.O., 150 ohm 1W | | | C209 | 23E04653S02 | ELY., 0.47 μ F/50V | | |
| R332 | 06E04639S03 | M.O., 150 ohm 1W | | | C210 | 23E04653S02 | ELY., 0.47 μ F/50V | | |
| R333 | 06E04639S04 | M.O., 120 ohm 1W | | | C211 | 23E04653S03 | ELY., 4.7 μ F/50V | | |
| R334 | 06E04639S04 | M.O., 120 ohm 1W | | | C212 | 23E04653S03 | ELY., 4.7 μ F/50V | | |
| R418 | 06E04641S01 | C.F., 88 ohm 1/2W | | | C213 | 23E04653S03 | ELY., 4.7 μ F/50V | | |
| R501 | 06E04640S02 | M.O., 2.2k ohm 2W | | | C214 | 23E04653S03 | ELY., 4.7 μ F/50V | | |
| R502 | 06E04640S02 | M.O., 2.2k ohm 2W | | | C215 | 08E04654S01 | M-PL., 0.039 μ F | | |
| R503 | 06E04640S03 | M.O., 2.7k ohm 2W | | | C216 | 08E04654S01 | M-PL., 0.039 μ F | | |
| R504 | 06E04640S03 | M.O., 2.7k ohm 2W | | | C217 | 08E04654S02 | M-PL., 0.18 μ F | | |
| MP301 | 17E04642S01 | CMT., 0.22 ohm 5.0W | | | C218 | 08E04654S02 | M-PL., 0.18 μ F | | |
| MP302 | 17E04642S01 | CMT., 0.22 ohm 5.0W | | | C219 | 08E04654S03 | M-PL., 6800pF | | |
| VR301 | 18E04643S01 | Semi Fixed Volume 2.2K | | | C220 | 08E04654S03 | M-PL., 6800pF | | |
| VR302 | 18E04643S01 | Semi Fixed Volume 2.2K | | | Miscellaneous | | | | |
| ● F501 | 65E04644S01 | Fuse 250V 0.16A | | | | | | | |
| ○ F501 | 65E04644S01 | Fuse 250V 0.16A | | | | | | | |
| ▲ F501 | 65E04645S01 | Fuse 250V 500mA | | | | | | | |
| △ F501 | 65E04645S01 | Fuse 250V 500mA | | | | | | | |
| ● F502 | 65E04646S01 | Fuse 250V 5A | | | | | | | |
| ○ F502 | 65E04646S01 | Fuse 250V 5A | | | | | | | |

Notes : ● : For LV-111 multivoltage model (AD), ▲ : For LV-111 Canadian model (UQ),
○ : For LV-110 multivoltage model (AD), △ : For LV-110 Canadian model (UQ), Others : Common.

| Symbol No. | Part No. | Description | | | Symbol No. | Part No. | Description | | |
|--------------------------|-------------|-------------------------------|--|--|------------------------------------|-------------|--------------------------|--|--|
| C221 | 08E04654S04 | M-PL., 0.033 μ F | | | Power Switch P. C. Board | | | | |
| C222 | 08E04654S04 | M-PL., 0.033 μ F | | | Capacitors/Fuses/Switch | | | | |
| C223 | 23E04655S01 | ELY., 100 μ F/25V | | | C601 | 08E04663S01 | Line CAP., AC400V103P | | |
| C224 | 23E04655S01 | ELY., 100 μ F/25V | | | C602 | 08E04663S01 | Line CAP., AC400V103P | | |
| C231 | 08E04654S05 | M-PL., 0.015 μ F | | | ● F601 | 65E04664S01 | Fuse 250V 2A | | |
| C232 | 08E04654S05 | M-PL., 0.015 μ F | | | ○ F601 | 65E04664S01 | Fuse 250V 2A | | |
| C233 | 08E04656S01 | STR., 820pF | | | ▲ F601 | 65E04665S01 | Fuse 125V 3.15A | | |
| C234 | 08E04656S01 | STR., 820pF | | | △ F601 | 65E04666S01 | Fuse 125V 2.5A | | |
| ● C240 | 21E04637S01 | CER., 0.022pF | | | SW601 | 40E04667S01 | Push Switch (Power) | | |
| ○ C240 | 21E04637S01 | CER., 0.022pF | | | Transistor P. C. Board (Protector) | | | | |
| ● C241 | 21E04632S02 | CER., 4700pF | | | Transistor | | | | |
| ○ C241 | 21E04632S02 | CER., 4700pF | | | Q404 | 48T81101F01 | 2SC1815 | | |
| ● C251 | 08E04654S06 | M-PL., 0.27 μ F | | | Transistor P. C. Board (L) | | | | |
| ▲ C251 | 08E04654S06 | M-PL., 0.27 μ F | | | Transistor | | | | |
| ● C252 | 08E04654S06 | M-PL., 0.27 μ F | | | Q311 | 48T81101F01 | 2SC1815 | | |
| ▲ C252 | 08E04654S06 | M-PL., 0.27 μ F | | | Transistor P. C. Board (R) | | | | |
| Resistors | | | | | Transistor | | | | |
| VR201 | 18E04657S01 | Rotary Volume 100KB (Master) | | | Q312 | 48T81101F01 | 2SC1815 | | |
| VR202 | 18E04658S01 | Rotary Volume 250KW (Balance) | | | Miscellaneous | | | | |
| VR203 | 18E04659S01 | Rotary Volume 50KC (Tone) | | | ▲ T601 | 25E04681S01 | TRANS., Power EI-85 T50C | | |
| VR204 | 18E04659S01 | Rotary Volume 50KC (Tone) | | | ● T601 | 25E04681S02 | TRANS., Power EI-85 T50M | | |
| Headphones P. C. Board | | | | | △ T601 | 25E04682S01 | TRANS., Power EI-85 T45C | | |
| Resistors/Switches/Jacks | | | | | ○ T601 | 25E04682S02 | TRANS., Power EI-85 T45M | | |
| R601 | 06E04640S04 | M.O., 270 ohm 2W | | | | | | | |
| R602 | 06E04640S04 | M.O., 270 ohm 2W | | | | | | | |
| ● SW602 | 40E04660S01 | Push Switch (Speaker A,B) | | | | | | | |
| ▲ SW602 | 40E04660S01 | Push Switch (Speaker A,B) | | | | | | | |
| ● JK601 | 09E04661S01 | Jack 6.3 (Headphone) | | | | | | | |
| ▲ JK601 | 09E04661S01 | Jack 6.3 (Headphone) | | | | | | | |
| ○ JK601 | 09E04662S01 | Jack 6.3 (Headphone) | | | | | | | |
| △ JK601 | 09E04662S01 | Jack 6.3 (Headphone) | | | | | | | |

Notes: ● : For LV-111 multivoltage model (AD), ▲ : For LV-111 Canadian model (UQ),
○ : For LV-110 multivoltage model (AD), △ : For LV-110 Canadian model (UQ), Others : Common.

Parts List by the Destination

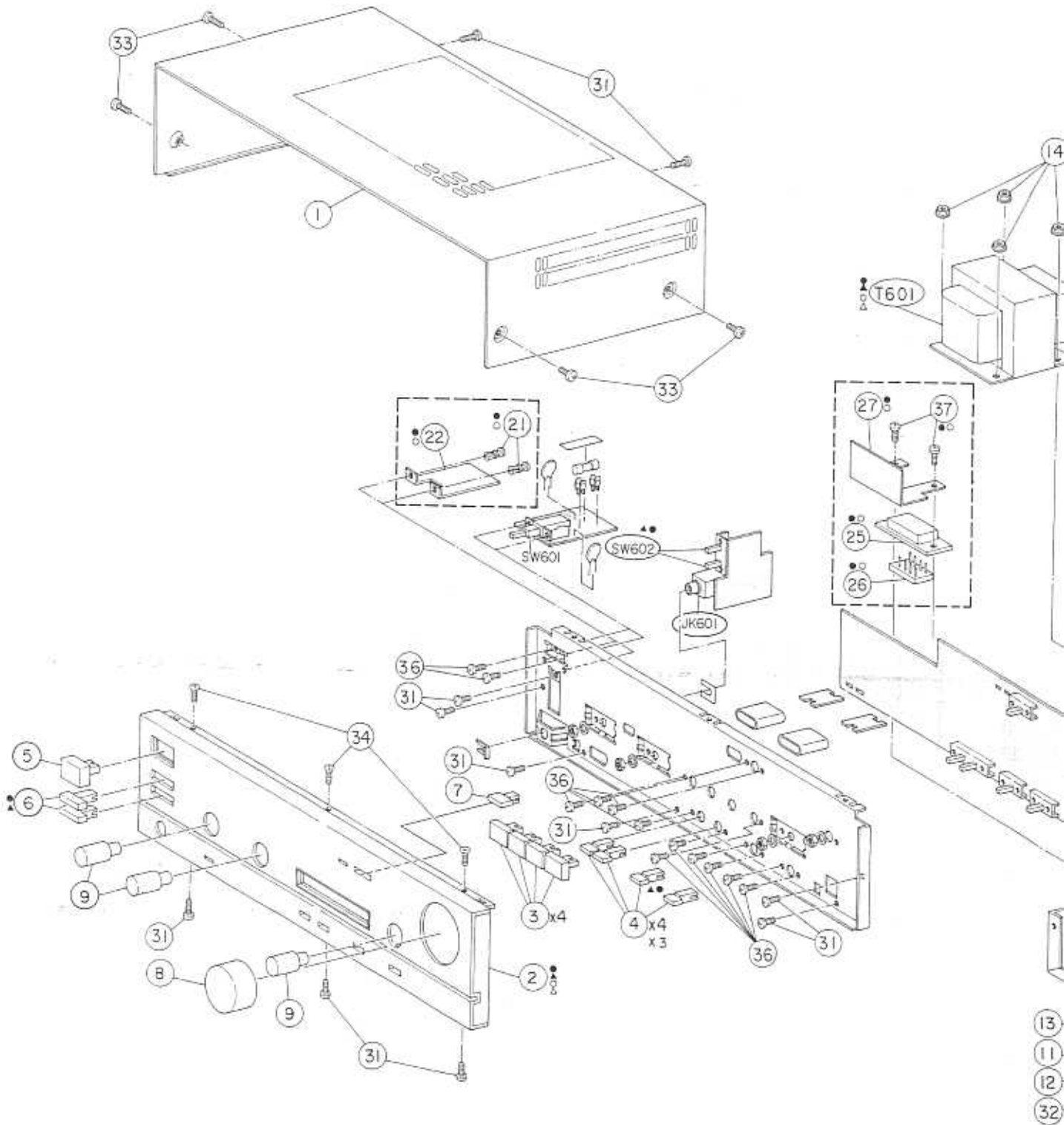
| Symbol No. | Description | POWER SOURCE | | | |
|------------|------------------|--------------|--------------|-------------|--------------|
| | | LV-111 | | LV-110 | |
| | | AD ● 220V | UQ ▲ 120V | ADO 220V | UQ △ 120V |
| C117 | Capacitor | 21E04734S02 | Not Used | 21E04734S02 | Not Used |
| C118 | Capacitor | 21E04734S02 | Not Used | 21E04734S02 | Not Used |
| C240 | Capacitor | 21E04637S01 | Not Used | 21E04637S01 | Not Used |
| C241 | Capacitor | 21E04632S02 | Not Used | 21E04632S02 | Not Used |
| C251 | Capacitor | 08E04654S06 | 08E04654S06 | Not Used | Not Used |
| C252 | Capacitor | 08E04654S06 | 08E04654S06 | Not Used | Not Used |
| C323 | Capacitor | 21E04631S01 | 21E04629S02 | 21E04631S01 | 21E04629S02 |
| C324 | Capacitor | 21E04631S01 | 21E04629S02 | 21E04631S01 | 21E04629S02 |
| C325 | Capacitor | 21E04631S01 | 21E04629S02 | 21E04631S01 | 21E04629S02 |
| C326 | Capacitor | 21E04631S01 | 21E04629S02 | 21E04631S01 | 21E04629S02 |
| C505 | Capacitor | 23E04635S02 | 23E04635S02 | 23E04635S01 | 23E04635S01 |
| C506 | Capacitor | 23E04635S02 | 23E04635S02 | 23E04635S01 | 23E04635S01 |
| C614 | Capacitor | 21E04631S02 | 21E04629S02 | 21E04631S02 | 21E04629S02 |
| C615 | Capacitor | 21E04631S02 | 21E04629S02 | 21E04631S02 | 21E04629S02 |
| C617 | Capacitor | 21E04638S01 | Not Used | 21E04638S01 | Not Used |
| C618 | Capacitor | 21E04637S02 | Not Used | 21E04637S02 | Not Used |
| C619 | Capacitor | 21E04637S02 | Not Used | 21E04637S02 | Not Used |
| SW205 | Switch | 40E04652S01 | 40E04652S01 | Not Used | Not Used |
| SW602 | Switch | 40E04660S01 | 40E04660S01 | Not Used | Not Used |
| JK601 | Jack | 09E04661S01 | 09E04661S01 | 09E04662S01 | 09E04662S01 |
| F501 | Fuse | 65E04644S01 | 65E04645S01 | 65E04644S01 | 65E04645S01 |
| F502 | Fuse | 65E04646S01 | Not Used | 65E04646S01 | Not Used |
| F601 | Fuse | 65E04664S01 | 65E04665S01 | 65E04664S01 | 65E04666S01 |
| T601 | Transformer | 25E04681S02 | 25E04681S01 | 25E04682S02 | 25E04682S01 |
| 2 | Front Panel Assy | 64E04669S01 | 64E04669S01 | 64E04670S01 | 64E04670S01 |
| 6 | Knob 50, Speaker | 36E04674S01 | 36E04674S01 | Not Used | Not Used |
| 16 | AC Outlet | Not Used | 09E04685S01 | Not Used | 09E04685S01 |
| 17 | AC Cord | 28E04687S01 | 28E04686S01 | 28E04687S01 | 28E04686S01 |
| 19 | Back Panel | 15E04689S02 | 15E04689S01 | 15E04690S02 | 15E04690S01 |
| 21 | Rivet | 05E04709S01 | Not Used | 05E04709S01 | Not Used |
| 22 | Insulation Sheet | 14E04692S01 | Not Used | 14E04692S01 | Not Used |
| 23 | Lug | 29E04693S01 | Not Used | 29E04693S01 | Not Used |
| 24 | Cover | 15E04694S01 | Not Used | 15E04694S01 | Not Used |
| 25 | Switch | 40E04695S01 | Not Used | 40E04695S01 | Not Used |
| 26 | Contact | 09E04696S01 | Not Used | 09E04696S01 | Not Used |
| 27 | Shield Plate | 07E04697S01 | Not Used | 07E04697S01 | Not Used |
| 35 | Screw | 03E04704S01 | Not Used | 03E04704S01 | Not Used |
| 37 | Screw | 03E04704S02 | Not Used | 03E04704S02 | Not Used |
| 101 | Packing Carton | 56E04698S01 | 56E04698S01 | 56E04698S02 | 56E04698S02 |
| 111 | Warranty Card | Not Used | 68P44370P63 | Not Used | 68P44370P63 |

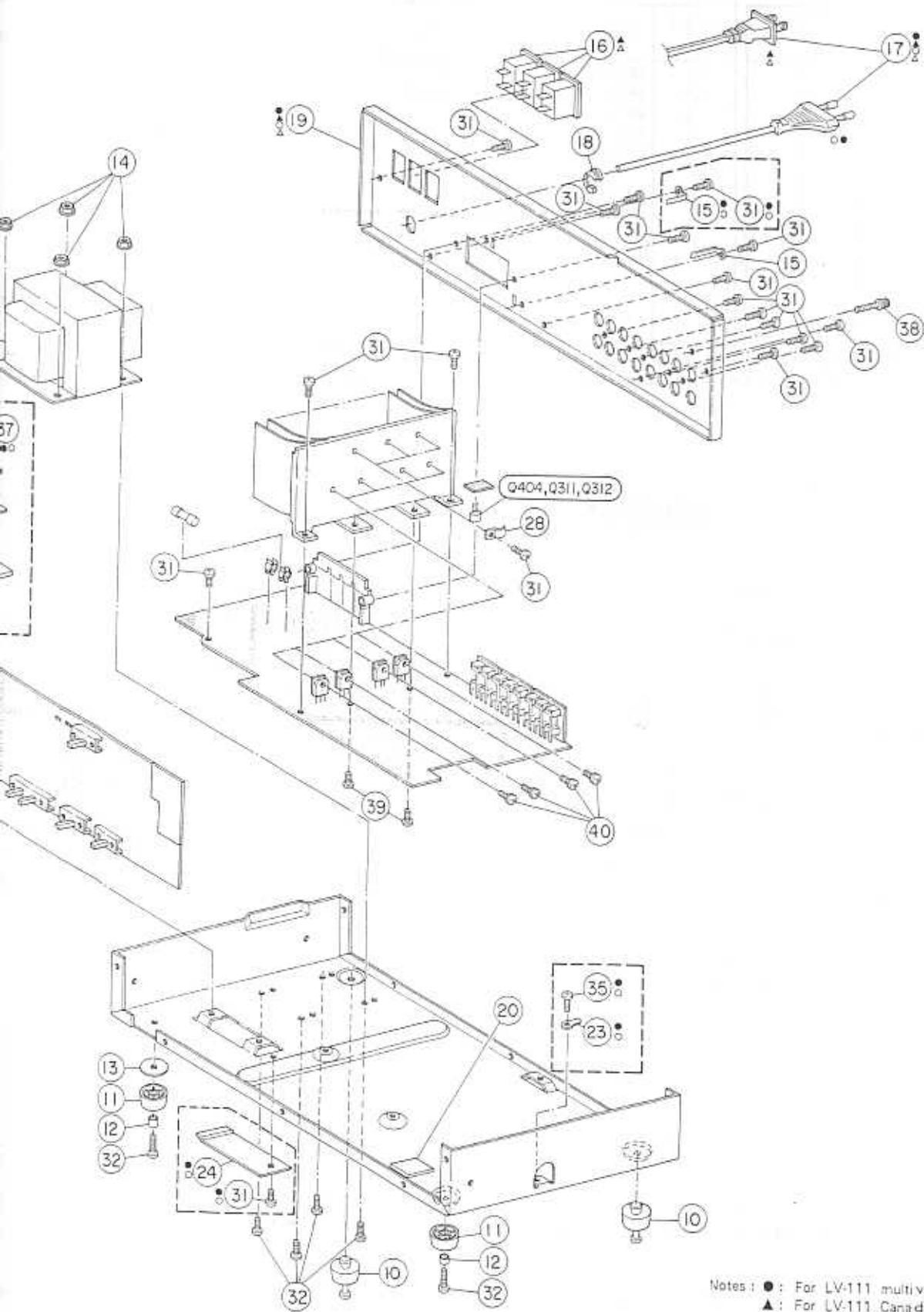
Cabinet Assembly Parts List

| Symbol No. | Index | Part No. | Description | | | Symbol No. | Index | Part No. | Description | | |
|------------|-------|----------|-------------|--------------------------|--|------------|-------|----------|-------------|----------------------------------|--|
| ● | 1 | 2-B | 15E04688S01 | Cabinet, Top | | ○ | 25 | 3-D | 40E04695S01 | Switch, Voltage Selector | |
| ▲ | 2 | 5-C | 64E04689S01 | Ass'y., Front Panel | | ● | 26 | 3-D | 09E04696S01 | Contact, Voltage Selector Switch | |
| ○ | 2 | 5-C | 64E04670S01 | Ass'y., Front Panel | | ○ | 26 | 3-D | 09E04696S01 | Contact, Voltage Selector Switch | |
| △ | 2 | 5-C | 64E04670S01 | Ass'y., Front Panel | | ● | 27 | 2-D | 07E04697S01 | Plate, Shield | |
| | 3 | 4-C | 36E04671S01 | Knob 50, Function | | ○ | 27 | 2-D | 07E04697S01 | Plate, Shield | |
| | 4 | 5-C | 36E04672S01 | Knob 50, Loudness | | | 28 | 3-G | 07E04710S01 | Holder for TR PCB | |
| | 5 | 4-A | 36E04673S01 | Knob 50, Power | | | 31 | | 03E04701S01 | Screw, Taptite, 3 × 8 | |
| ● | 6 | 4-A | 36E04674S01 | Knob 50, Speaker | | | 32 | | 03E04702S02 | Screw, Taptite, 4 × 10 | |
| ▲ | 6 | 4-A | 36E04674S01 | Knob 50, Speaker | | | 33 | | 03E04702S01 | Screw, Taptite, 4 × 8 | |
| | 7 | 4-C | 36E04675S01 | Knob 50, CD | | | 34 | 4-B | 03E04703S01 | Screw, Taptite, 3 × 8 | |
| | 8 | 5-A | 36E04676S01 | Knob 21, Main Volume | | ● | 35 | 5-G | 03E04704S01 | Screw, Taptite | |
| | 9 | | 36E04677S01 | Knob 21, Tone/Balance | | ○ | 35 | 5-G | 03E04704S01 | Screw, Taptite | |
| | 10 | | 75E04678S01 | Foot, Back | | | 36 | | 03E04705S01 | Screw, F-Lock, 3 × 6 | |
| | 11 | | 75E04679S01 | Foot, Front | | ● | 37 | 2-D | 03E04704S02 | Screw, Taptite, 3 × 10 | |
| | 12 | | 43E04684S01 | Spacer, Small | | ○ | 37 | 2-D | 03E04704S02 | Screw, Taptite, 3 × 10 | |
| | 13 | 5-E | 43E04680S01 | Spacer, Large | | | 38 | 2-H | 03E04706S01 | Screw | |
| | 14 | 1-E | 04E04708S01 | Nut, Flange | | | 39 | 4-F | 03E04704S03 | Screw, Taptite 2.6 × 8 | |
| | 15 | | 29E04683S01 | Lug | | | 40 | 4-G | 03E04707S01 | Screw, Sems 3 × 10 | |
| ▲ | 16 | 1-G | 09E04685S01 | Outlet, AC | | | | | | | |
| △ | 16 | 1-G | 09E04685S01 | Outlet, AC | | | | | | | |
| ▲ | 17 | 1-H | 28E04686S01 | Cord, AC | | | | | | | |
| △ | 17 | 1-H | 28E04686S01 | Cord, AC | | | | | | | |
| ● | 17 | 1-H | 28E04687S01 | Cord, AC | | | | | | | |
| ○ | 17 | 1-H | 28E04687S01 | Cord, AC | | | | | | | |
| | 18 | 1-G | 43E04688S01 | Bushing, Cord | | | | | | | |
| ▲ | 19 | 1-F | 15E04689S01 | Panel, Back | | | | | | | |
| ● | 19 | 1-F | 15E04689S02 | Panel, Back | | | | | | | |
| △ | 19 | 1-F | 15E04690S01 | Panel, Back | | | | | | | |
| ○ | 19 | 1-F | 15E04690S02 | Panel, Back | | | | | | | |
| | 20 | 5-G | 75E04691S01 | Cushion | | | | | | | |
| ● | 21 | 2-C | 05E04709S01 | Rivet, Nylon | | | | | | | |
| ○ | 21 | 2-C | 05E04709S01 | Rivet, Nylon | | | | | | | |
| ● | 22 | 3-B | 14E04692S01 | Sheet, Insulation | | | | | | | |
| ○ | 22 | 3-B | 14E04692S01 | Sheet, Insulation | | | | | | | |
| ● | 23 | 5-G | 29E04693S01 | Lug | | | | | | | |
| ○ | 23 | 5-G | 29E04693S01 | Lug | | | | | | | |
| ● | 24 | 5-E | 15E04694S01 | Cover | | | | | | | |
| ○ | 24 | 5-E | 15E04694S01 | Cover | | | | | | | |
| ● | 25 | 3-D | 40E04695S01 | Switch, Voltage Selector | | | | | | | |

Notes : ● : For LV-111 multivoltage model (AD), ▲ : For LV-111 Canadian model (UQ),
○ : For LV-110 multivoltage model (AD), △ : For LV-110 Canadian model (UQ), Others : Common.

Exploded View (Cabinet)





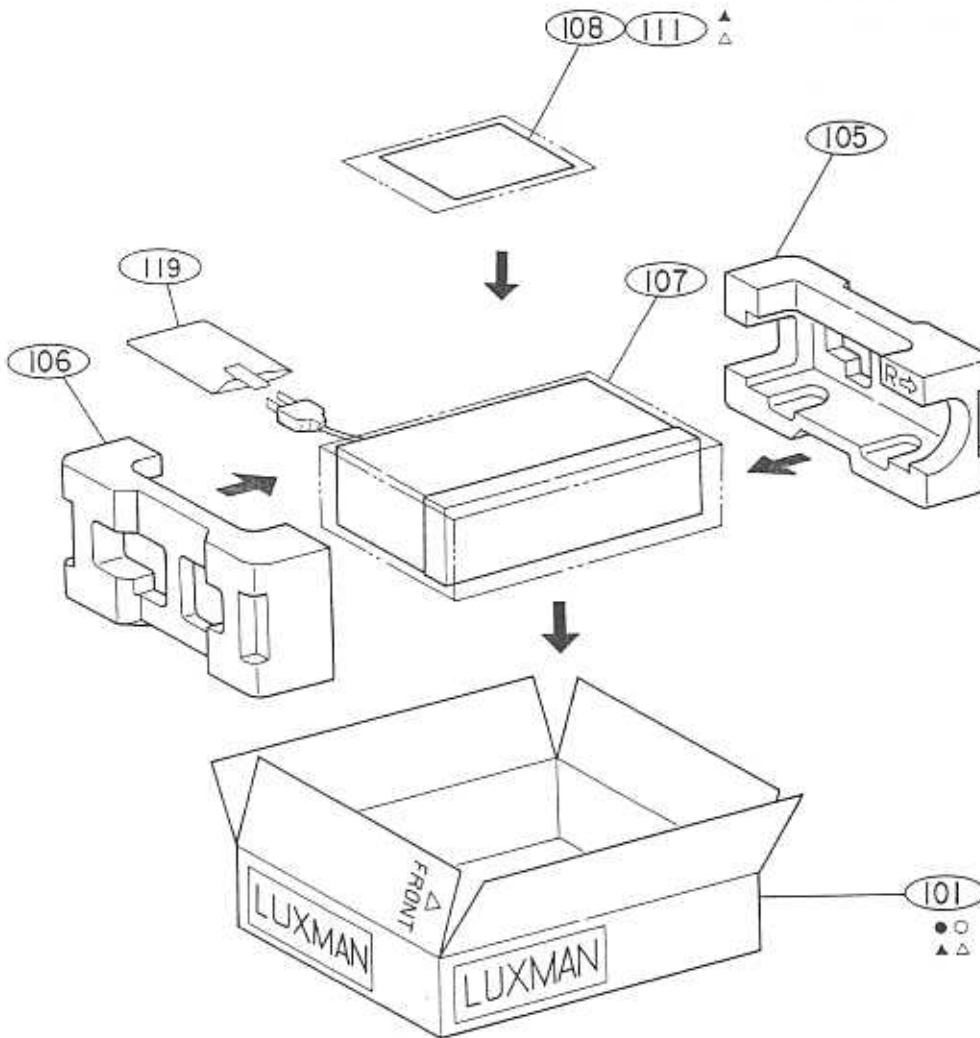
Notes : ● : For LV-111 multivoltage model (AD).
▲ : For LV-111 Canadian model (UQ).
○ : For LV-110 multivoltage model (AD).
△ : For LV-110 Canadian model (UQ).
Others : Common.

Packing Assembly Parts List

| Symbol No. | Part No. | Description | | | Symbol No. | Part No. | Description | | |
|------------|----------|-------------|-----------------|--|------------|----------|-------------|---------------------|---------------|
| ● | 101 | 56E04698S01 | Carton, Packing | | | 106 | 56E04698S02 | Box, Snow, L | |
| ▲ | 101 | 56E04698S01 | Carton, Packing | | | 107 | 56E04700S01 | Bag, High Polyester | |
| ○ | 101 | 56E04698S02 | Carton, Packing | | | 108 | 68P94789F06 | Owner's Manual | |
| △ | 101 | 56E04698S02 | Carton, Packing | | | ▲ | 111 | 68P44370P63 | Warranty Card |
| | 105 | 56E04699S01 | Box, Snow, R | | | △ | 111 | 68P44370P63 | Warranty Card |
| | | | | | | 119 | 56E04783S01 | Bag, Polyester | |

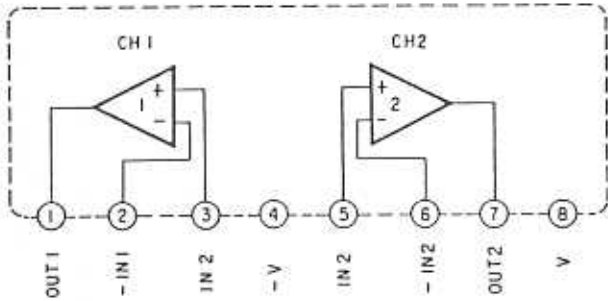
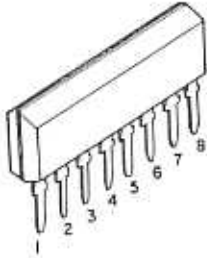
Notes : ● : For LV-111 multivoltage model (AD), ▲ : For LV-111 Canadian model (UQ),
○ : For LV-110 multivoltage model (AD), △ : For LV-110 Canadian model (UQ), Others : Common.

Packing Method View

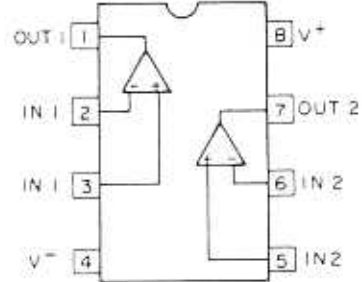
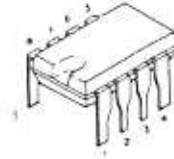


Semi-Conductor Lead Identifications

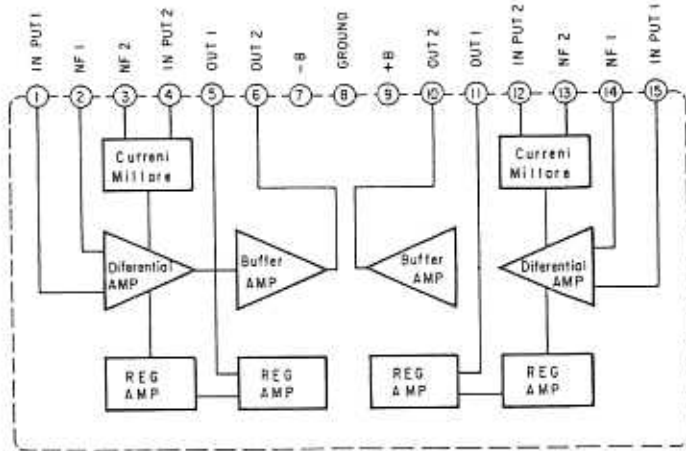
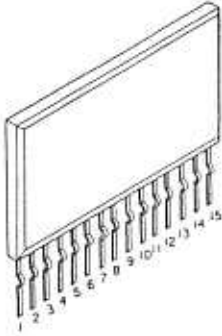
M5220L : IC101



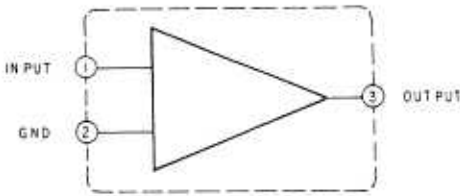
BA4558HT : IC201



STK3042M-III : IC301



L78M15 : IC501



2SD600 : Q301, 302
2SB631 : Q303, 304



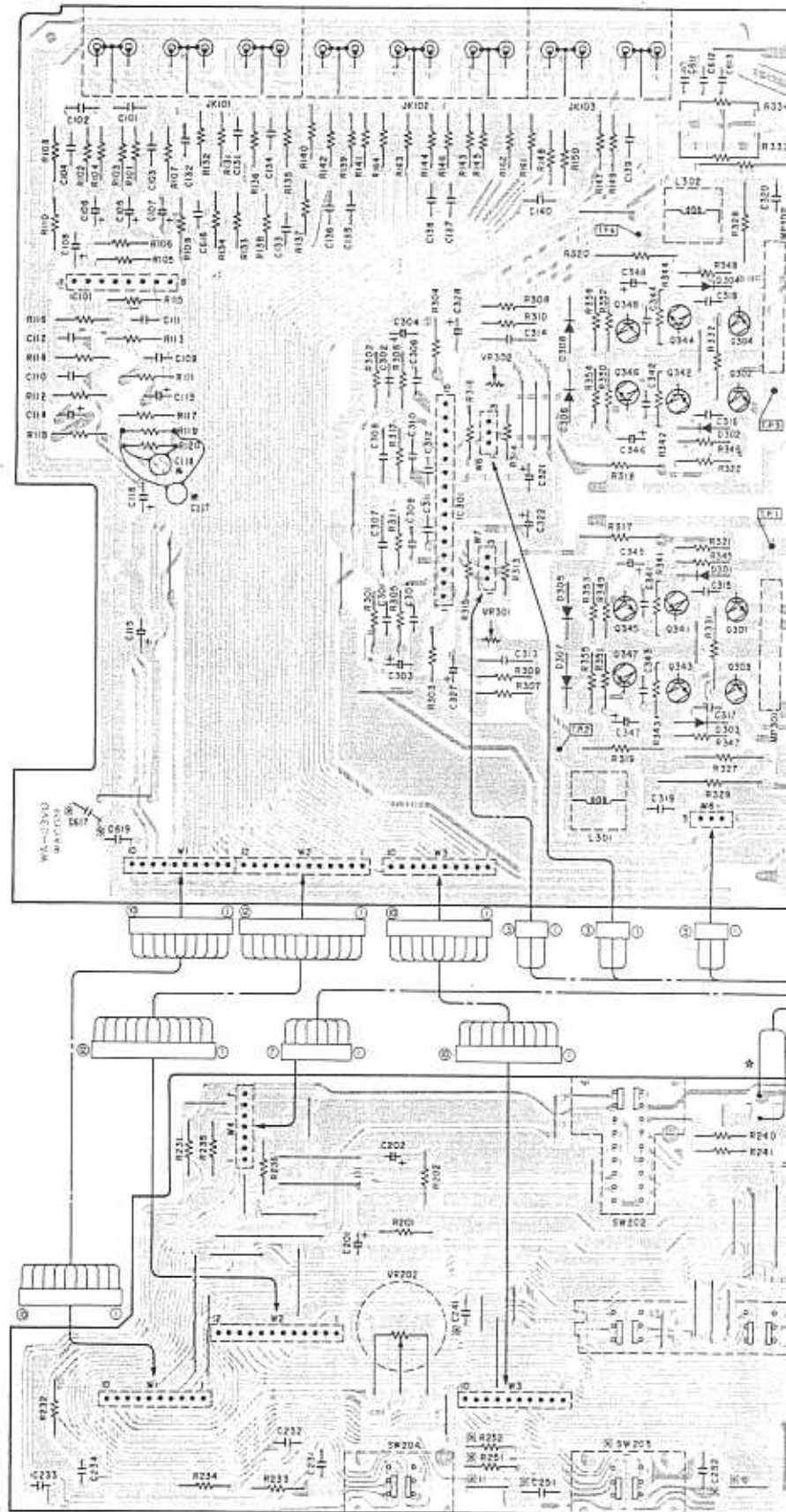
2SD1047 : Q305, 306
2SB817 : Q307, 308



2SA1015 : Q341, 342, 347, 348, 403,
2SC1815 : Q343~346, 401, 402, 405, 406
2SC2120 : Q407

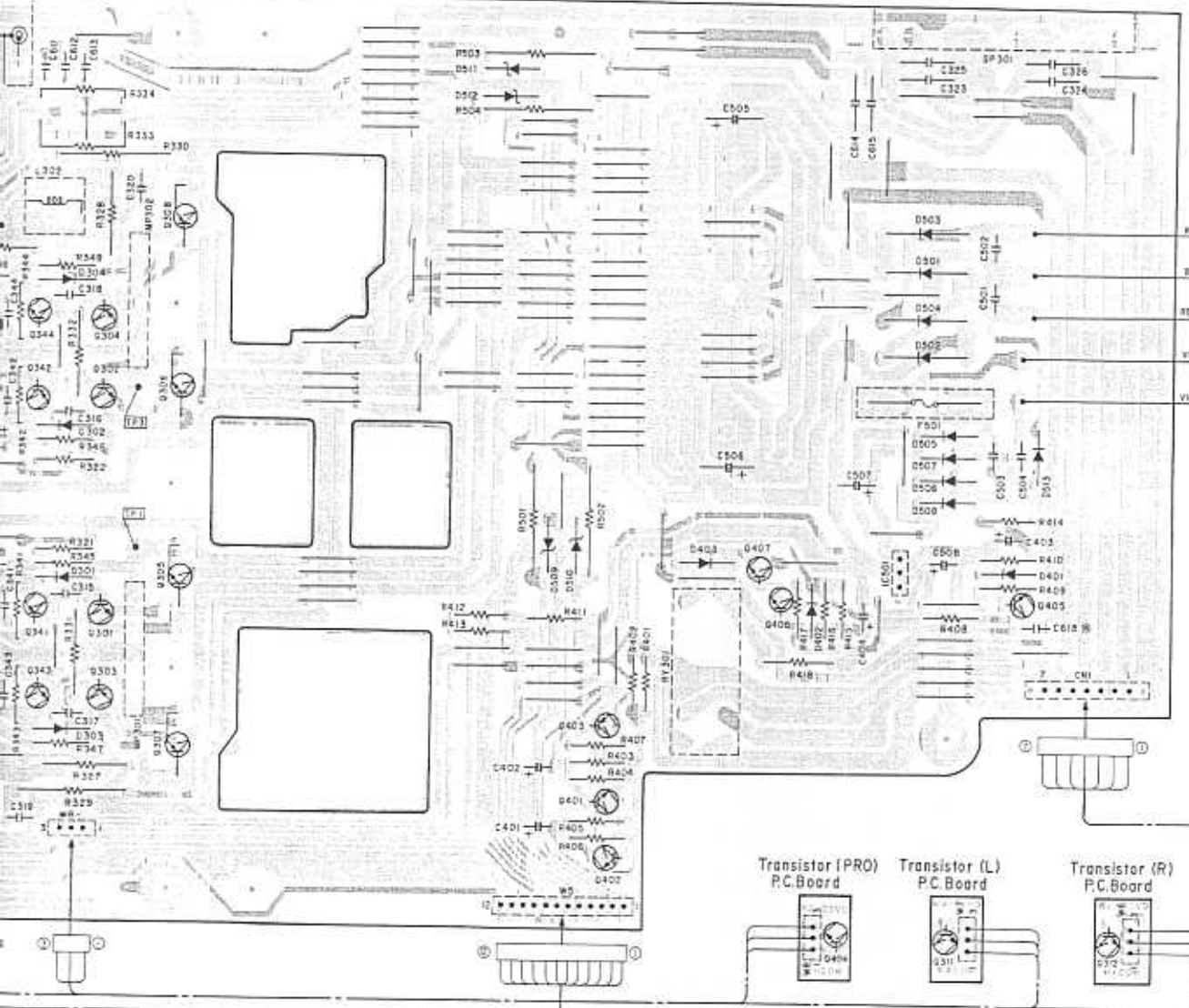


Parts Layout on P.C. Boards and Wiring Diagram

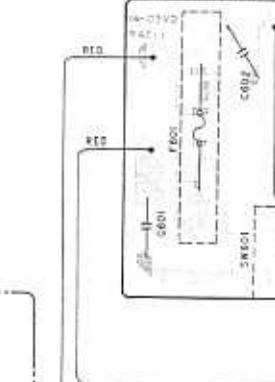


- BLU Blue
- GRN Green
- BLK Black
- GRY Gray
- WHT White
- RED Red
- BRN Brown
- ORG Orange
- YEL Yellow
- PNK Pink
- VIO Violet
- GRN/WHT Green/White
- GRY/WHT Gray/White
- GRY/YEL Gray/Yellow
- GRN/YEL Green/Yellow
- SHLD Shield

Main P.C. Board



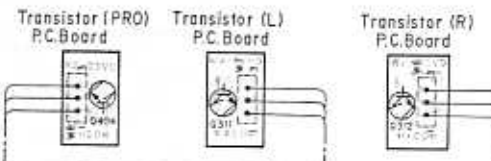
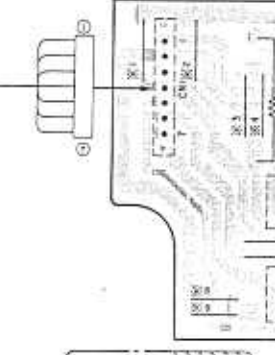
Power Switch P.C.



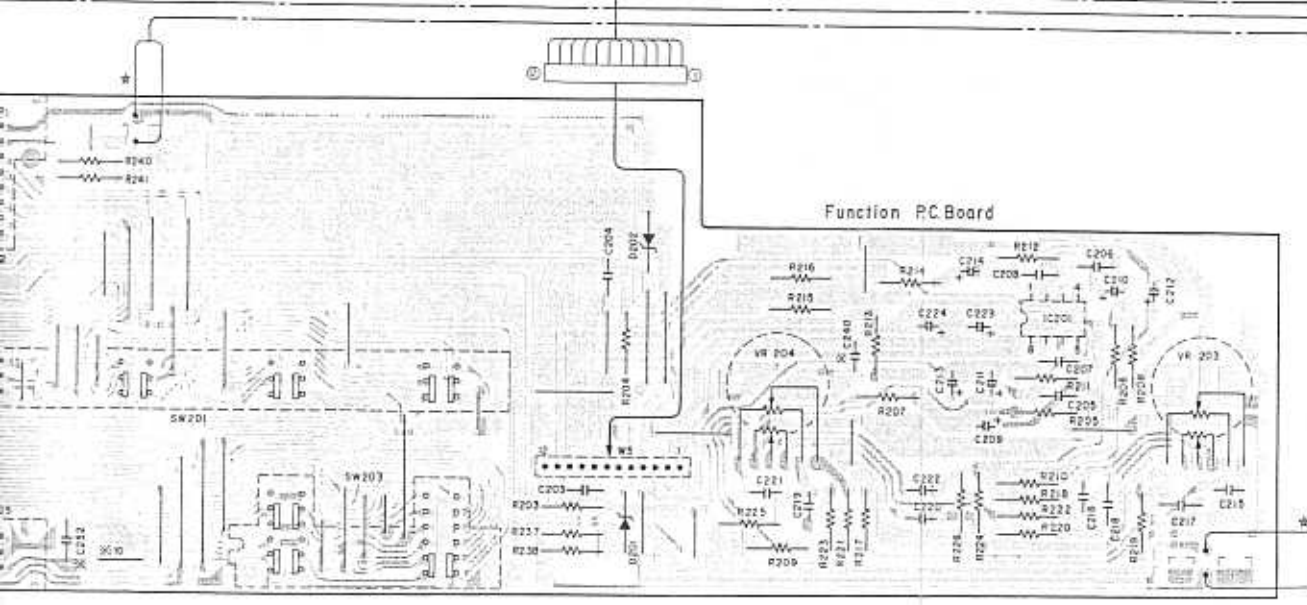
Fuse P.C. Board (AO Model Only)



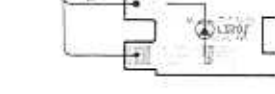
Headphone P.C. Board



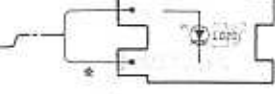
Function P.C. Board



LED P.C. Board (1)

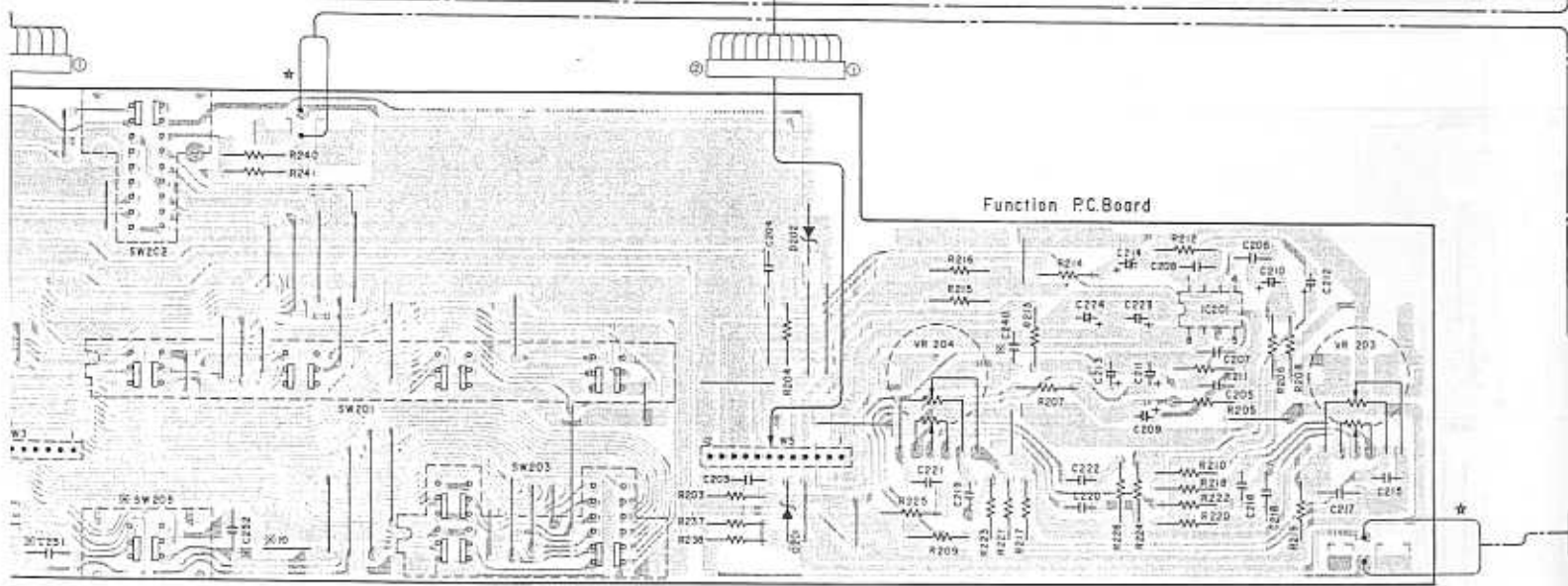
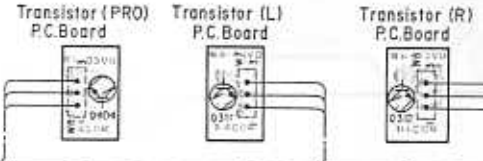
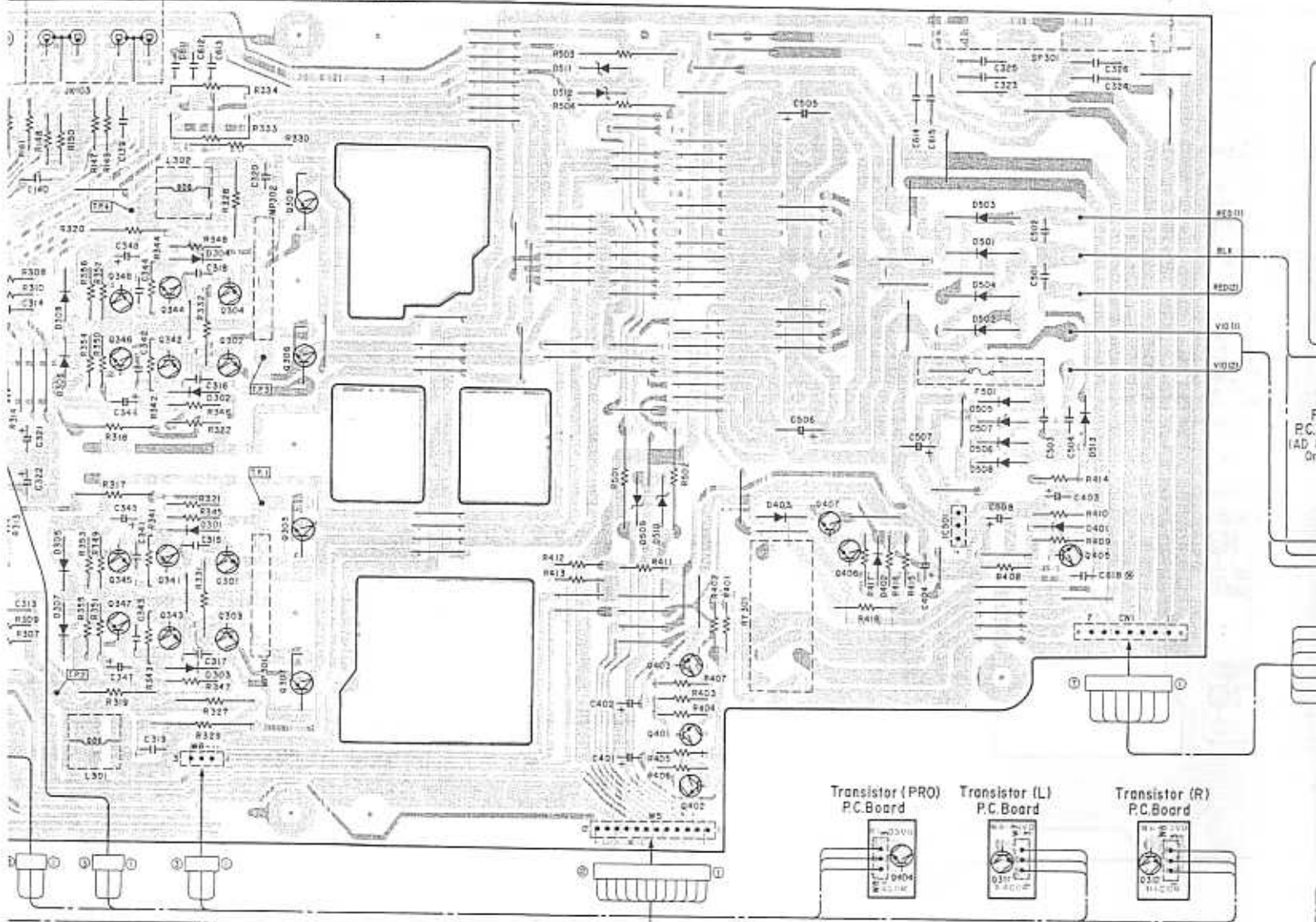


LED P.C. Board (2)

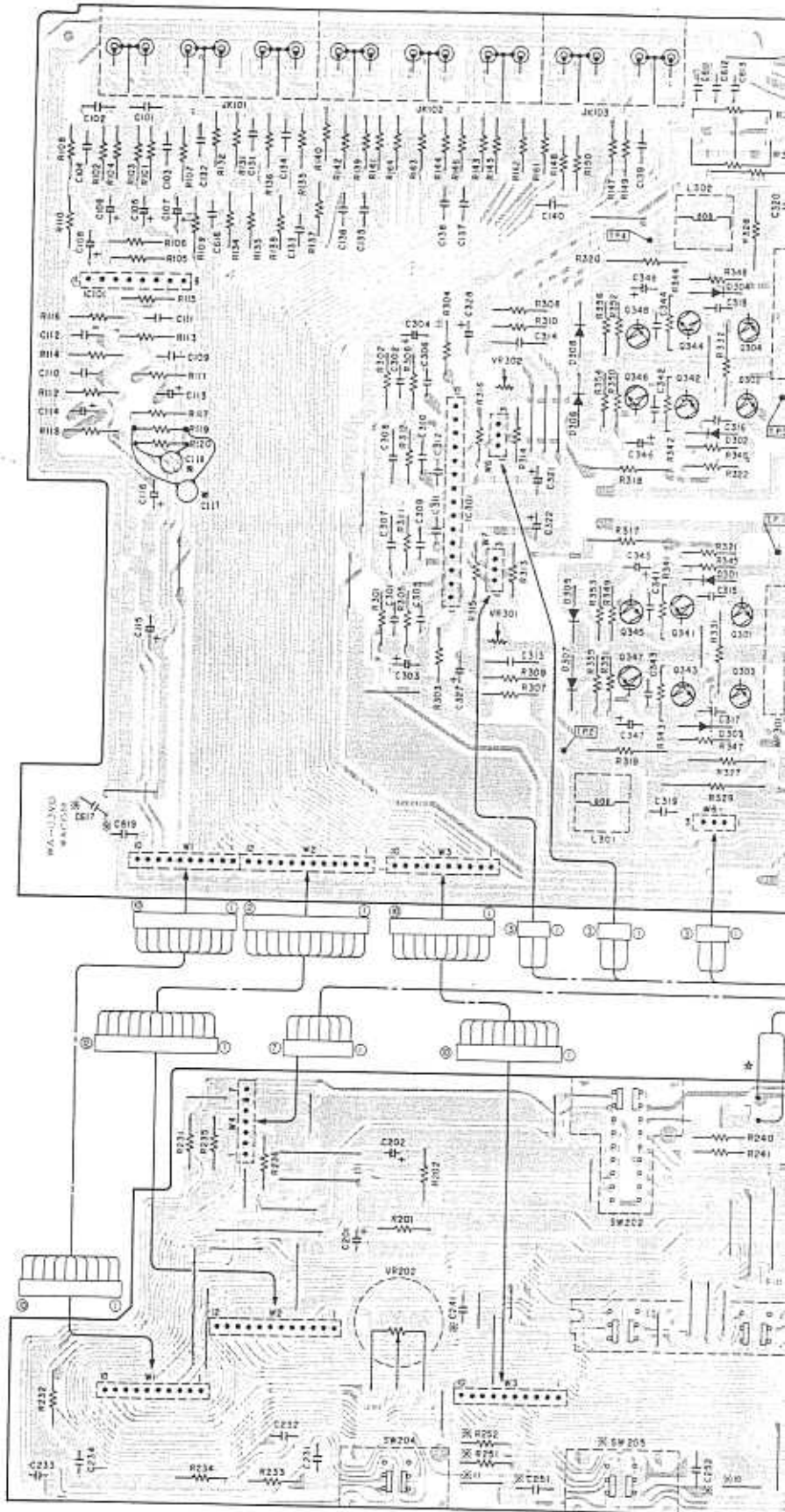


m

Main PC Board

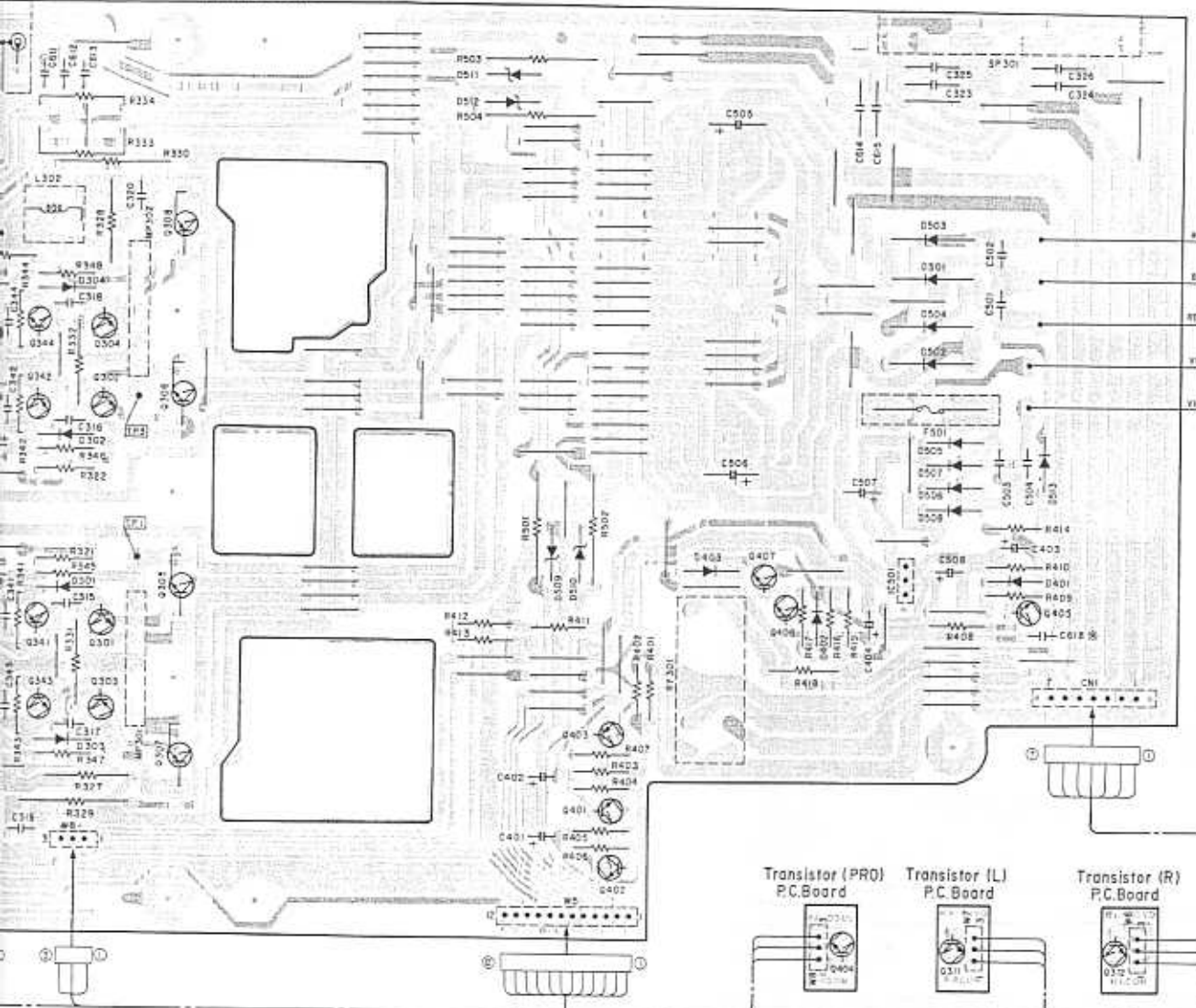


Parts Layout on P.C. Boards and Wiring Diagram

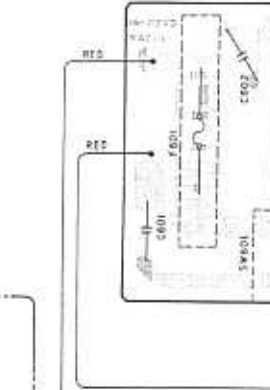


- BLU Blue
- GRN Green
- BLK Black
- GRY Gray
- WHT White
- RED Red
- BRN Brown
- ORG Orange
- YEL Yellow
- PNK Pink
- VIO Violet
- GRN/WHT Green/White
- GRY/WHT Gray/White
- GRY/YEL Gray/Yellow
- GRN/YEL Green/Yellow
- SHLD Shield

Main P.C. Board



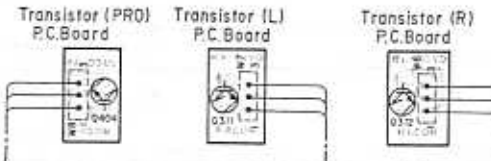
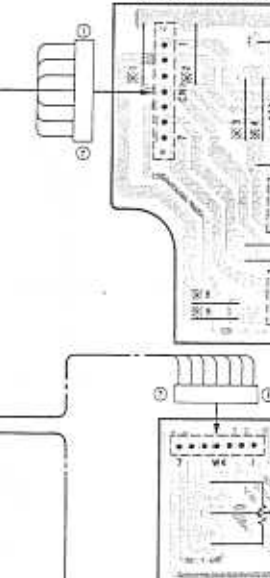
Power Switch P.C.



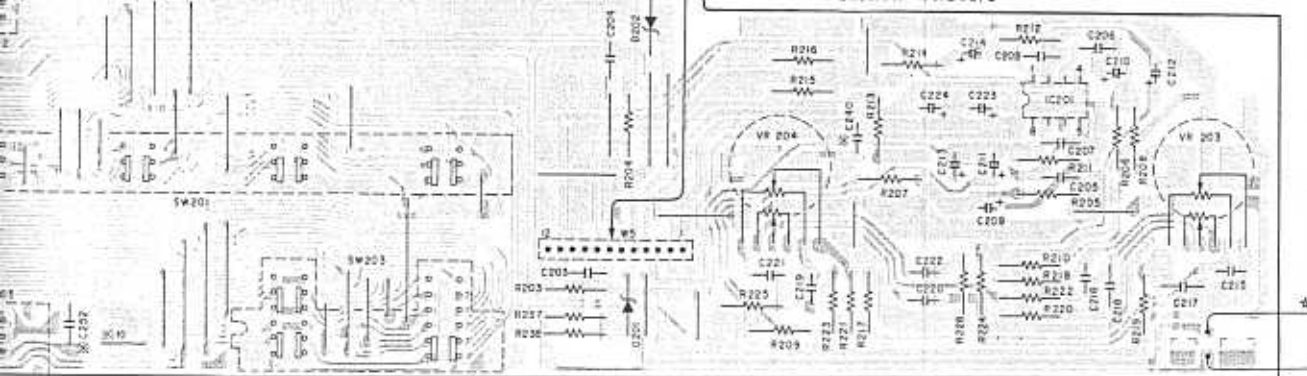
Fuse P.C. Board (AO Model Only)



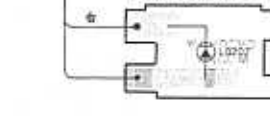
Headphone P.C. Board



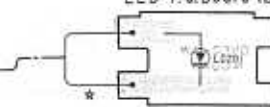
Function P.C. Board



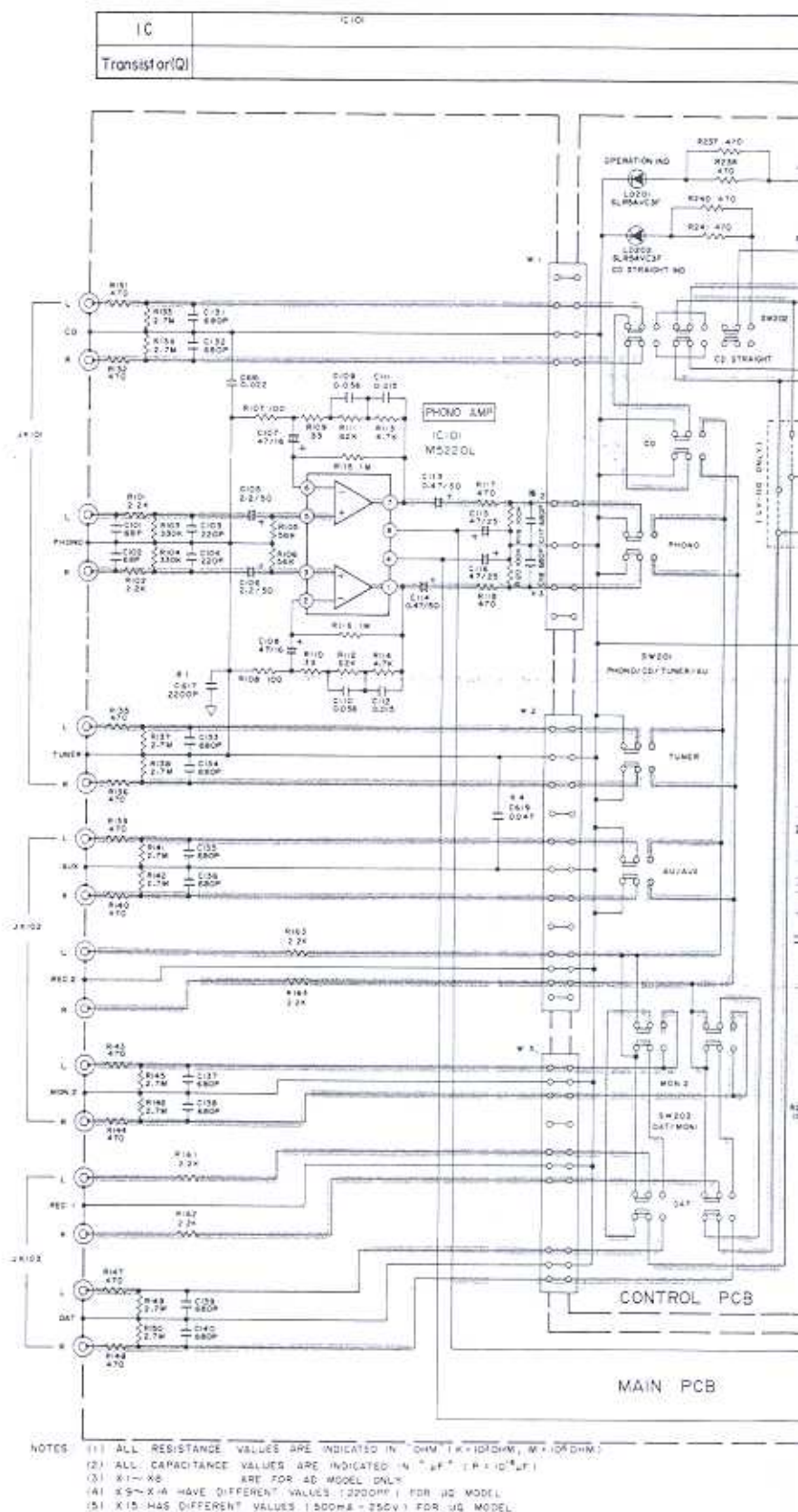
LED P.C. Board (1)



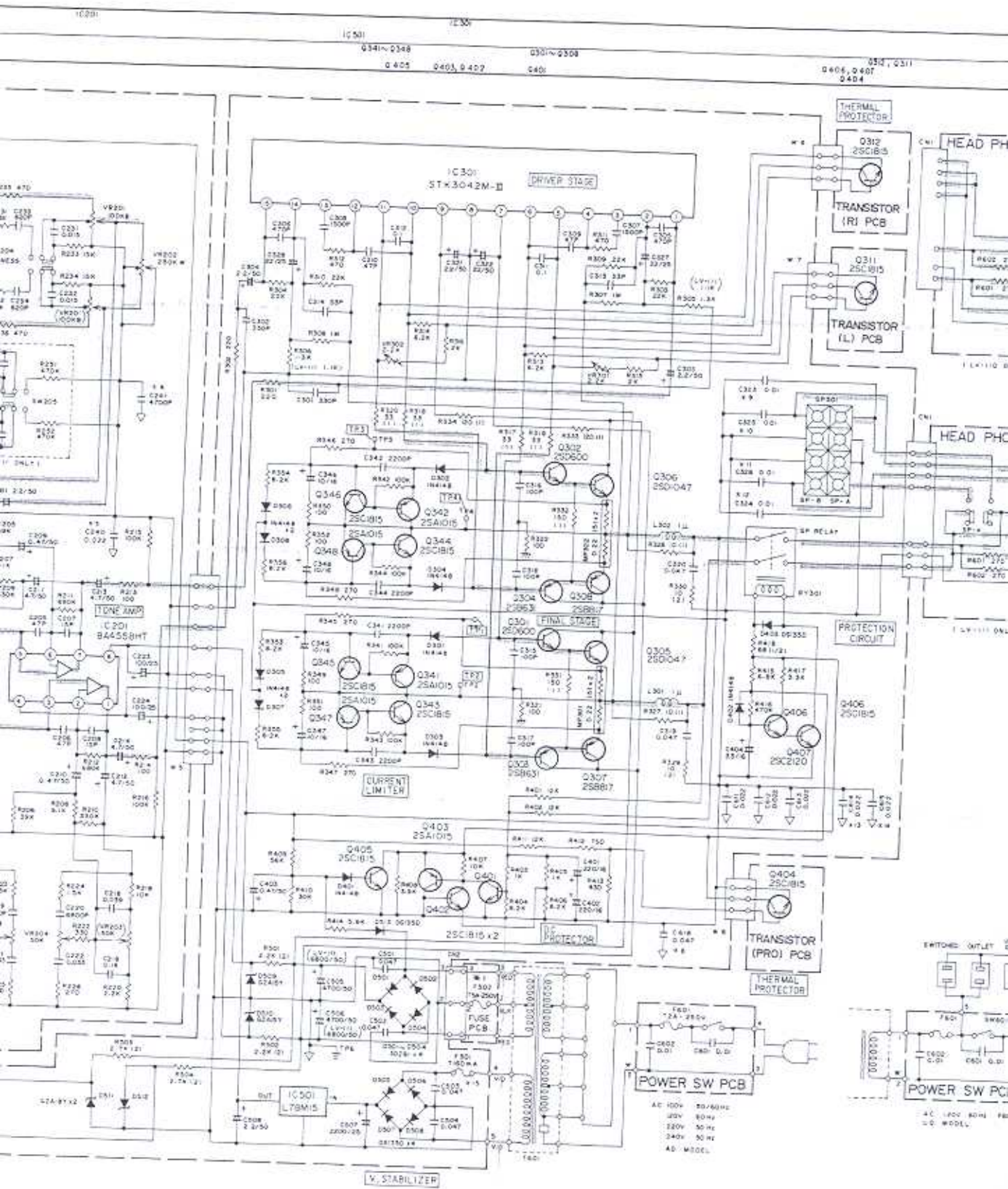
LED P.C. Board (2)



Schematic Diagram

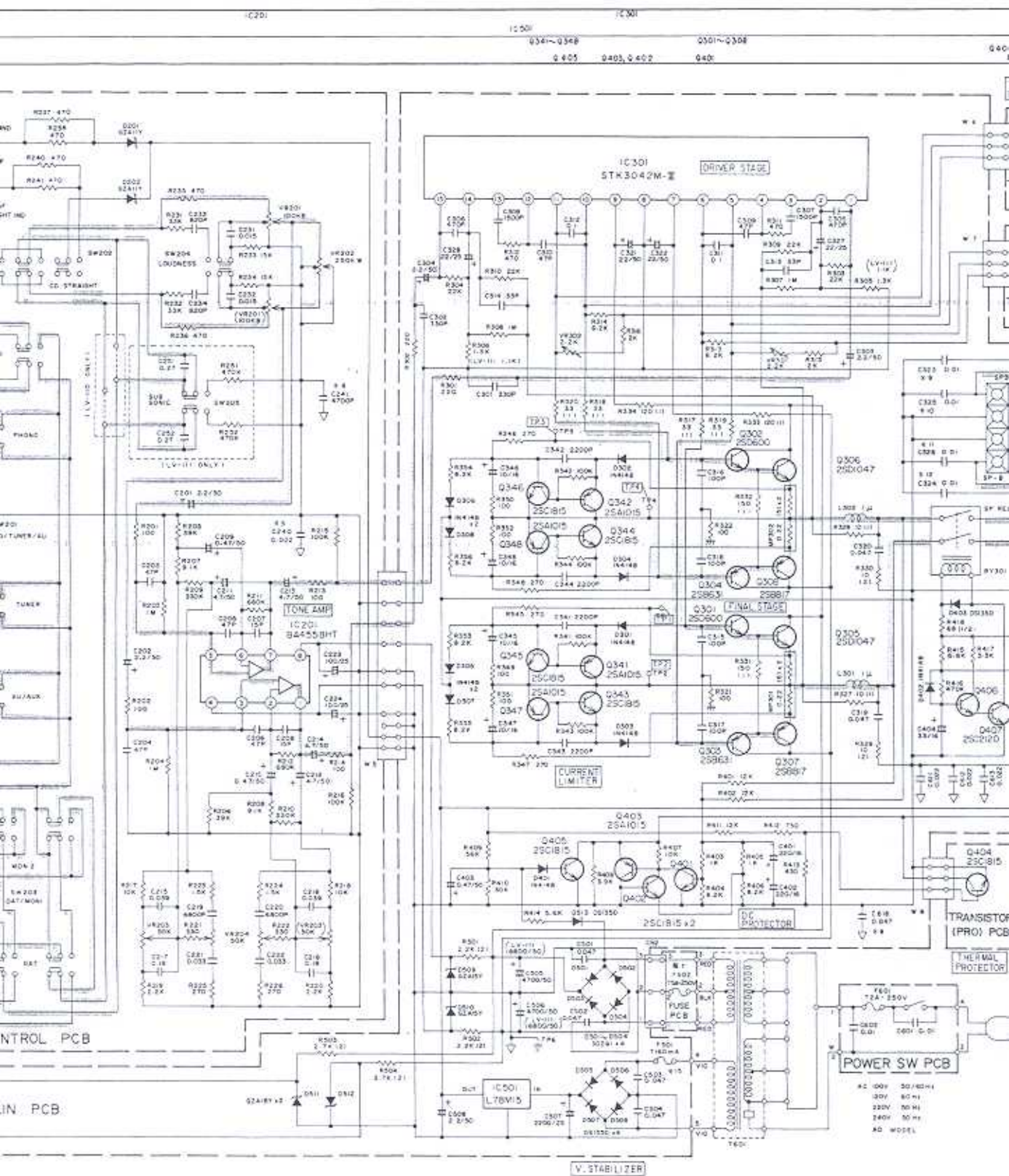


- NOTES
- (1) ALL RESISTANCE VALUES ARE INDICATED IN OHM (K=1000OHM, M=10000OHM).
 - (2) ALL CAPACITANCE VALUES ARE INDICATED IN P.F. (P=10⁻¹²F).
 - (3) X1-X8 ARE FOR 40 MODEL ONLY.
 - (4) X9-X14 HAVE DIFFERENT VALUES (2200PF) FOR 40 MODEL.
 - (5) X15 HAS DIFFERENT VALUES (500PF-350PF) FOR 40 MODEL.



NOTES:

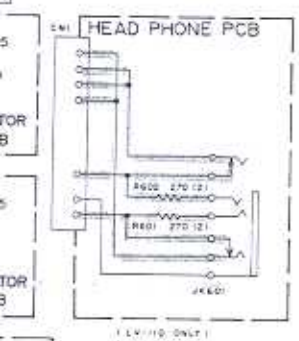
1. All resistance values are in ohms.
2. All capacitance values are in micro.



NOTE
1. All
2. All



(Measuring Conditions)
 • Power supply voltage: 220V AC
 • Measuring point reference: To ground
 • Relay circuit: Relay on



I C 1 8 1

| | |
|---|---------|
| 1 | -6.87V |
| 2 | 1.56V |
| 3 | 1.56V |
| 4 | -15.77V |
| 5 | 1.56V |
| 6 | 1.56V |
| 7 | -6.87V |
| 8 | 15.77V |

I C 2 6 1

| | |
|---|---------|
| 1 | 1.56V |
| 2 | 1.56V |
| 3 | 1.56V |
| 4 | -15.77V |
| 5 | 1.56V |
| 6 | 1.56V |
| 7 | 1.56V |
| 8 | 15.77V |

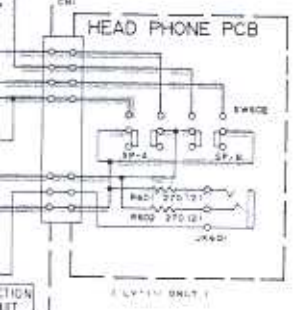
I C 3 0 3

| | | | |
|---|--------|----|--------|
| 1 | -4.5V | 9 | 40.7V |
| 2 | -0.74V | 10 | -1.1V |
| 3 | 40.1V | 11 | -1.1V |
| 4 | 39.4V | 12 | 39.5V |
| 5 | -1V | 13 | 49V |
| 6 | 1V | 14 | -0.44V |
| 7 | -0.28V | 15 | -0.28V |
| 8 | 0V | | |

I C 5 0 3

| | |
|-------|------|
| 16 | 0.01 |
| 22.27 | 1.01 |

| | V | C | Ω |
|------|---------|--------|---------|
| Q001 | 0V | 0V | -1.1V |
| Q002 | 0.55V | 0V | -1.1V |
| Q003 | -0.54V | 0V | -1.1V |
| Q004 | -0.54V | 0V | -1.1V |
| Q005 | -0.54V | 40.5V | 0.37V |
| Q006 | -0.44V | 40.5V | 0.37V |
| Q007 | -1.26V | -42.5V | -0.50V |
| Q008 | -10.56V | 42.5V | -0.54V |
| Q009 | 0V | 0V | -0.43V |
| Q010 | 0V | 0V | -0.36V |
| Q011 | 1V | -6.84V | 1V |
| Q012 | 1V | 0V | -1.1V |
| Q013 | 1V | 0V | -1.1V |
| Q014 | -1V | -6.84V | -1V |
| Q015 | -1V | 0V | -1.1V |
| Q016 | 0V | 1V | -4.56V |
| Q017 | 0V | 1V | -0.64V |
| Q018 | 0V | -1V | -10.56V |
| Q019 | 0V | -1V | -10.56V |
| Q020 | -0.28V | 0.27V | -1.56V |
| Q021 | 0.5V | 1.56V | 0.5V |
| Q022 | 0V | 0V | 0.5V |
| Q023 | 0V | 0.27V | -2V |
| Q024 | 1.44V | 0.84V | 0.7V |
| Q025 | 0.7V | 0.7V | 1.4V |



| Ref No. | Model | LF-111 MΩ only ● | LV-111 Ω only ▲ | LP-111 MΩ only ○ | LV-110 Ω only △ |
|---------|------------------|---------------------|--------------------|---------------------|--------------------|
| W1 | C107 | 2700pF | Not used | 2700pF | Not used |
| W2 | C107 | 470pF | Not used | 470pF | Not used |
| W3 | C118 | 100pF | Not used | 100pF | Not used |
| W4 | C119 | 0.247μF | Not used | 0.247μF | Not used |
| W5 | C240 | 0.221μF | Not used | 0.221μF | Not used |
| W6 | C241 | 4700pF | Not used | 4700pF | Not used |
| W7 | C242 | 250V 5A | Not used | 250V 5A | Not used |
| W8 | C513 | 0.547μF | Not used | 0.547μF | Not used |
| W9 | C523 | 0.01μF | 2200pF | 0.01μF | 2200pF |
| W10 | C525 | 0.01μF | 2200pF | 0.01μF | 2200pF |
| W11 | C531 | 0.01μF | 2200pF | 0.01μF | 2200pF |
| W12 | C533 | 0.01μF | 2200pF | 0.01μF | 2200pF |
| W13 | C514 | 0.022μF | 2200pF | 0.022μF | 2200pF |
| W14 | C515 | 0.022μF | 2200pF | 0.022μF | 2200pF |
| W15 | F501 | 100V 0.1A | 100V 0.1A | 100V 0.1A | 100V 0.1A |
| S200 | Substrate Switch | Substrate Switch | Not used | Not used | Not used |
| S201 | Socketed Switch | Socketed Switch | Not used | Not used | Not used |
| S202 | Socketed Switch | Socketed Switch | Not used | Not used | Not used |
| S203 | 470kΩ | 470kΩ | Not used | Not used | Not used |
| S204 | 1kΩ | 1kΩ | Not used | Not used | Not used |
| S205 | 0.27μF | 0.27μF | Not used | Not used | Not used |
| S206 | 4700pF | 4700pF | 4700pF | 4700pF | 4700pF |
| S207 | 250V 2A | 100V 0.1A | 250V 2A | 250V 2A | 250V 2A |
| S208 | FJ2114AB-4 | FJ2114AB-4 | FJ2114AB-4 | FJ2114AB-4 | FJ2114AB-4 |

Resistance values are in ohms. K = 1,000
 Capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

LV-111/LV-110