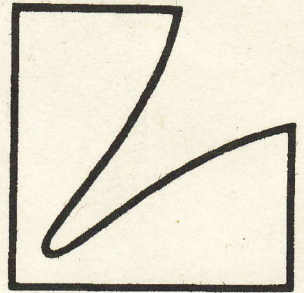
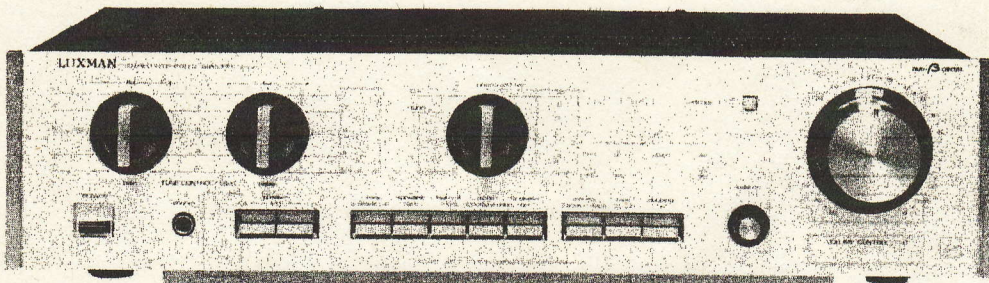


SERVICE MANUAL

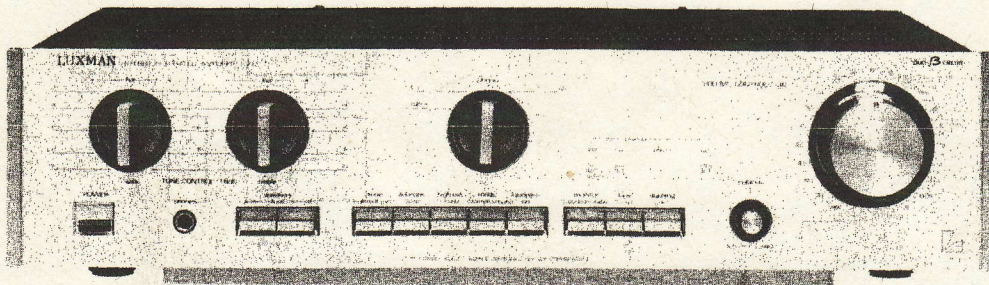


DUO-BETA CIRCUIT STEREO
INTEGRATED AMPLIFIER

L-235 L-225



L-235

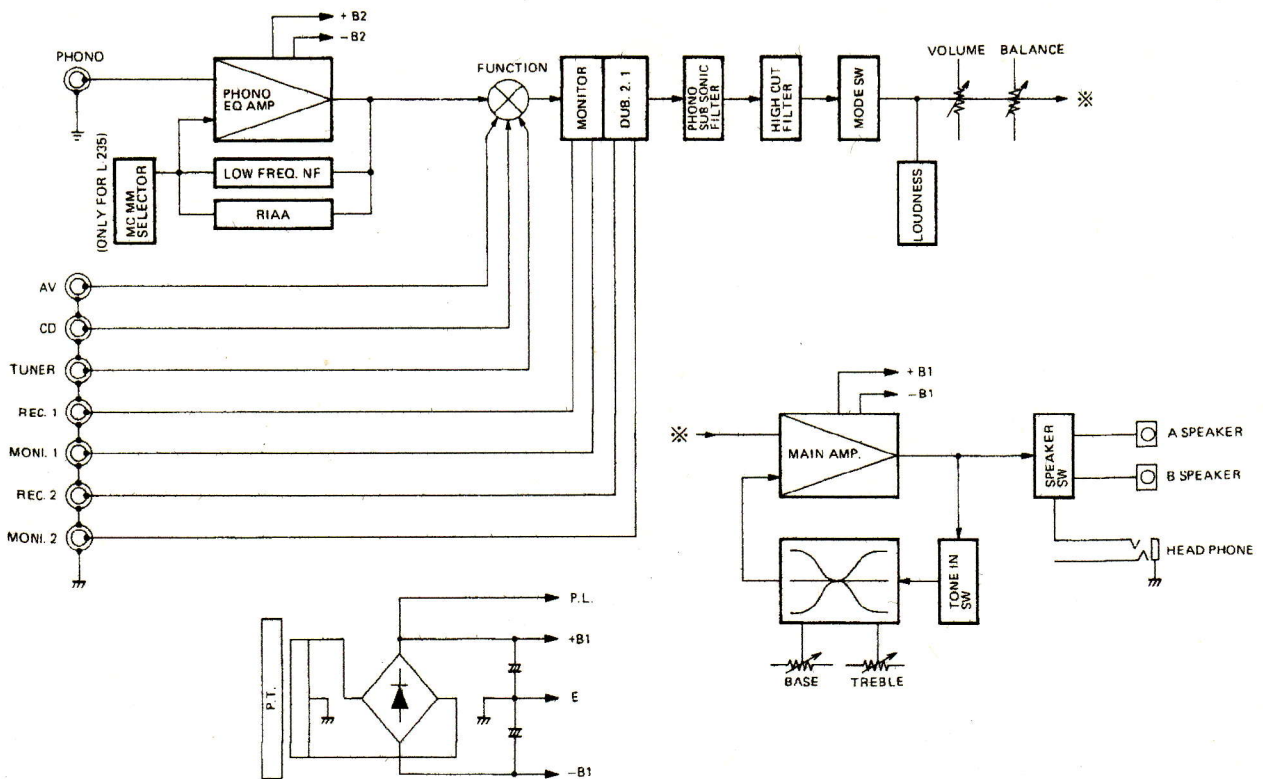


L-225

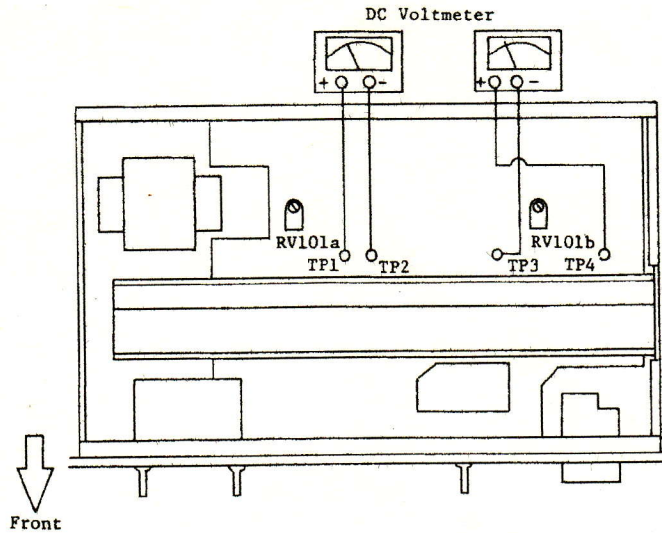
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Block Diagram



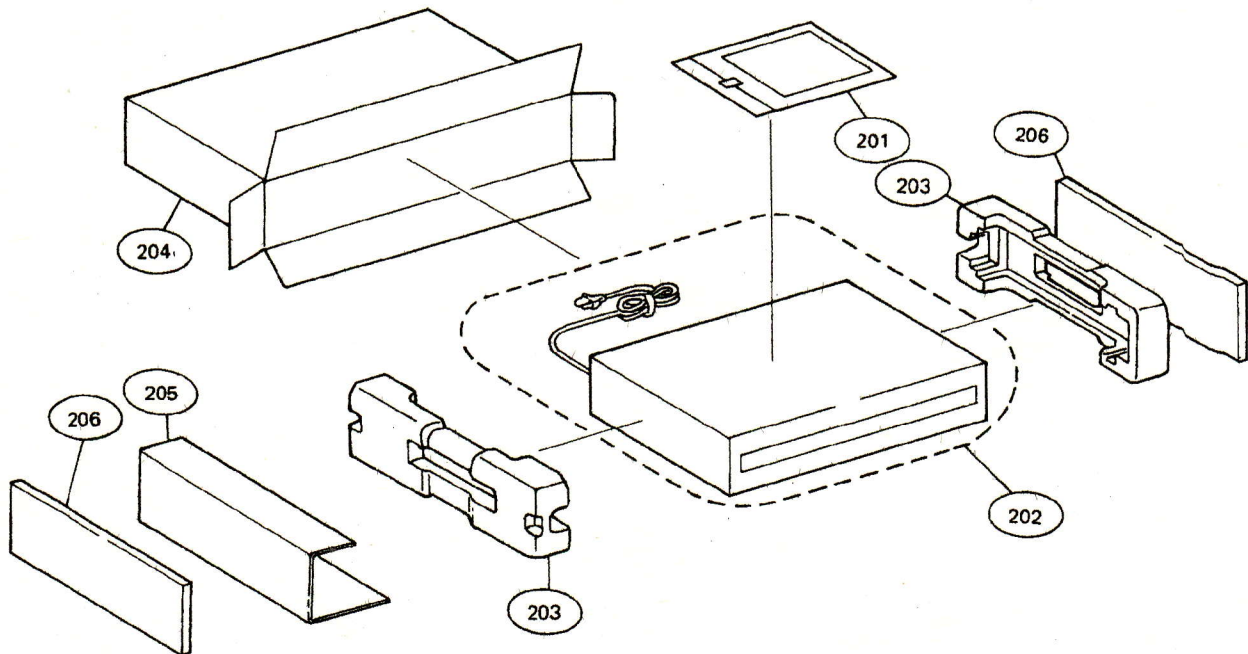
Adjustment Procedures



Bias (Idle) Current Adjustment

1. Connect a DC Voltmeter in between TP1 and TP2 on L-ch and or TP4 and TP3 on R-ch, Making TP1 and TP4 positive respectively.
2. Adjust the RV101a and RV101b to obtain $15\text{mV} \pm 5\text{mV}$ reading on the meter.

Packing Material Parts List



Packing Material Parts List

| Index | Symbol No. | Stock No. | Description | Remarks |
|-------|------------|-------------|-------------------------|---------|
| | 201 | 68P65432F35 | Owner's Manual | |
| | 202 | 56B63425F11 | S, Poly 620x480 | |
| | 203 | 56C56637F01 | Packing Tray | |
| | 204 | 56C60482F40 | Carton, Packing [L-225] | |
| | | 56S60482F42 | Carton, Packing | |
| | 205 | 56A67614F01 | Pad, Packing [L-235] | |
| | 206 | 56A67599F01 | Pad, Packing [L-235] | |

Destination's Parts List

L-235/225

| Symbol No. | Description | L-235 | | | | | L-225 |
|------------|--------------------|----------------------|-------------------------|---------------------------------|------------------------------------|----------------------|----------------------|
| | | SK 220V Europe | SD 220V W.Germany | AK 220V Europe Other's | AG 240V Australia England | UP 120V Canada | SK 220V Europe |
| 7 | SW, Push | 40T57371F01 | 40T57371F01 | 40T57371F01 | 40T57371F01 | 40T57371F01 | None Use |
| 8 | Wire, Flex | 45T57373F01 | 45T57373F01 | 45T57373F01 | 45T57373F01 | 45T57373F01 | None Use |
| 9 | Plug, SW P-2120 | None Use | None Use | 09T51830F01 | 09T51830F01 | None Use | None Use |
| 10 | Socket, SW M-1615 | None Use | None Use | 09T51831F01 | 09T51831F01 | None Use | None Use |
| 11 | Inlet, 2P | None Use | None Use | 09T67078F01 | 09T67078F01 | None Use | None Use |
| 13 | Outlet, AC | None Use | None Use | None Use | None Use | 09T57066F01 | None Use |
| 16 | Holder, Fuse | 09T51074F01 | 09T51074F01 | 09T51074F01 | 09T51074F01 | 09T51828F01 | 09T51074F01 |
| 22 | Heat Sink | 07C56668F01 | 07C56668F01 | 07C56668F01 | 07C56668F01 | 07C56668F01 | 07C56635F01 |
| 27 | Cover, Rear | 15D56636F22 | 15D56636F22 | 15D56636F26 | 15D56636F26 | 15D56636F29 | 15D56636F21 |
| 28 | AC Cord | 28T43182P02 | 28T43182P02 | 30T67077F01 | 30T67359F01 | 28T55335P02 | 28T43182P02 |
| 29 | Support, Cord | 43B41625J02 | 43B41625J02 | None Use | None Use | 43B41625J02 | 43B41625J02 |
| 32 | Bkt. PCB | * | * | * | * | * | None Use |
| 37 | Ass'y, Panel Front | 01V68100F58 | 01V68100F58 | 01V68100F58 | 01V68100F58 | 01V68100F58 | 01V68100F48 |
| 38 | Knob, Rotary A | 36A66510F01 | 36A66510F01 | 36A66510F01 | 36A66510F01 | 36A66510F02 | 36A66510F01 |
| 39 | Knob, Rotary B | 36B66511F01 | 36B66511F01 | 36B66511F01 | 36B66511F01 | 36B66511F03 | 36B66511F01 |
| 40 | Knob, Rotary C | 36B66512F01 | 36B66512F01 | 36B66512F01 | 36B66512F01 | 36B66512F03 | 36B66512F01 |
| 43 | Knob, Push B | 36A57180F01 | 36A57180F01 | 36A57180F01 | 36A57180F01 | 36A57180F01 | None Use |
| 49 | Panel, Front | 64D66508F04 | 64D66508F04 | 64D66508F04 | 64D66508F04 | 64D66508F04 | 64D66508F03 |
| 60 | Frme, Knob 1163 | 07A57407F01 | 07A57407F01 | 07A57407F01 | 07A57407F01 | 07A57407F01 | None Use |
| 68 | Ass'y, MC SW PCB | * | * | * | * | * | None Use |
| 106 | Scr, CUP M3x6 | 03C42723U01 | 03C42723U01 | 03C42723U01 | 03C42723U01 | 03C42723U01 | None Use |
| 113 | Scr, T-Tite | 03S44205G02 | 03S44205G02 | 03S44205G02 | 03S44205G02 | 03S44205G02 | None Use |
| 119 | Screw | None Use | None Use | 03S44205G03 | 03S44205G03 | None Use | None Use |
| 120 | Screw | None Use | None Use | 03S40012G98 | 03S40012G98 | None Use | None Use |
| S701 | SW, Slide SSR2435 | 40T57372F01 | 40T57372F01 | 40T57372F01 | 40T57372F01 | 40T57372F01 | None Use |
| T001 | Trans, Power | 25T66801F01 | 25T66801F01 | 25T66801F01 | 25T66801F01 | 25T66801F01 | 25T66799F01 |
| F001 | Fuse | 65T42077U18 | 65T42077U18 | 65T42077U18 | 65T42077U18 | 65T52486F12 | 65T57086F07 |
| Q112a, b | Transistor, Power | 48T57132F03 | 48T57132F03 | 48T57132F03 | 48T57132F03 | 48T57132F03 | 48T57130F03 |
| Q113a, b | Transistor, Power | 48T57131F03 | 48T57131F03 | 48T57131F03 | 48T57131F03 | 48T57131F03 | 48T57129F03 |
| 204 | Carton, Packing | 56S60482F42 | 56S60482F42 | 56S60482F42 | 56S60482F42 | 56S60482F42 | 56S60482F40 |
| 205 | Pad, Packing | 56A67614F01 | 56A67614F01 | 56A67614F01 | 56A67614F01 | 56A67614F01 | None Use |
| 206 | Pad, Packing | 56A67599F01 | 56A67599F01 | 56A67599F01 | 56A67599F01 | 56A67599F01 | None Use |
| F101a, b | Fuse | 65T42077U19 | 65T42077U19 | 65T42077U19 | 65T42077F19 | 65T57086F09 | 65T57086F09 |
| F102a, b | Fuse | 65T42077U19 | 65T42077U19 | 65T42077U19 | 65T42077F19 | 65T57086F09 | 65T57086F09 |
| L102a, b | Choke Coil | None Use | 24T67516F01 | None Use | None Use | None Use | None Use |
| L103a, b | Choke Coil | None Use | 24T67516F01 | None Use | None Use | None Use | None Use |
| C101a, b | Capacitor | 08C42195G20 | 08T42081U25 | 08C42195G20 | 08C42195G20 | 08C42195G20 | 08T42081U01 |
| C102a, b | Capacitor | None Use | 08S40805F11 | None Use | None Use | None Use | None Use |
| C104a, b | Capacitor | 23T44501P27 | 23T44501P27 | 23T44501P27 | 23T44501P27 | 23T44501P27 | 23T44501P08 |
| C109a, b | Capacitor | None Use | 08T42081U05 | None Use | None Use | None Use | None Use |
| C110a, b | Capacitor | None Use | 08T42081U05 | None Use | None Use | None Use | None Use |
| C111a, b | Capacitor | None Use | 08T42081U05 | None Use | None Use | None Use | None Use |
| C112a, b | Capacitor | None Use | 08T42081U05 | None Use | None Use | None Use | None Use |
| C113a, b | Capacitor | 23T43197F17 | 23T43197F17 | 23T43197F17 | 23T43197F17 | 23T43197F17 | None Use |
| C117a, b | Capacitor | 08C42195G20 | 08C42195G20 | 08C42195G20 | 08C42195G20 | 08C42195G20 | 08C42081U01 |
| C120a, b | Capacitor | 23S41198U44 | 23S41198U44 | 23S41198U44 | 23S41198U44 | 23S41198U44 | 23S41198U37 |
| C131 | Capacitor | 23S40657F43 | 23S40657F43 | 23S40657F43 | 23S40657F43 | 23S40657F43 | 23S40657F35 |
| C136 | Capacitor | None Use | 08S44505P61 | None Use | None Use | None Use | None Use |
| C137 | Capacitor | None Use | 08S44505P61 | None Use | None Use | None Use | None Use |
| C138 | Capacitor | None Use | 08S44505P61 | None Use | None Use | None Use | None Use |
| C139a, b | Capacitor | None Use | 08S40656F13 | None Use | None Use | None Use | None Use |
| C140a, b | Capacitor | None Use | 08S40656F13 | None Use | None Use | None Use | None Use |
| C150 | Capacitor | None Use | 21C45322G33 | None Use | None Use | None Use | None Use |
| C151a, b | Capacitor | None Use | 21C45322G28 | None Use | None Use | None Use | None Use |
| R100a, b | Resistor | 06S44593P43 | 06S44593P43 | 06S44593P43 | 06S44593P43 | 06S44593P43 | None Use |
| R101a, b | Resistor | None Use | 06S44593P57 | None Use | None Use | None Use | None Use |
| R132a, b | Resistor | 06T55175F47 | 06T00003L41 | 06T55175F47 | 06T55175F47 | 06T55175F47 | 06T55175F47 |
| R134a, b | Resistor | 06T55175F41 | 06T55175F41 | 06T55175F41 | 06T55175F41 | 06T55175F41 | 06T55175F27 |
| R153a, b | Resistor | 06T56661F54 | 06T56661F54 | 06T56661F54 | 06T56661F54 | 06T56661F54 | 06T56661F53 |
| R160a, b | Resistor | None Use | 06S44593P45 | None Use | None Use | None Use | None Use |
| R161a, b | Resistor | None Use | 06S44593P45 | None Use | None Use | None Use | None Use |
| R162a, b | Resistor | None Use | 06S44593P45 | None Use | None Use | None Use | None Use |
| R163a, b | Resistor | None Use | 06S44593P45 | None Use | None Use | None Use | None Use |
| J01a, b | Resistor | Jumper | 06S40150T45 | Jumper | Jumper | Jumper | Jumper |
| C701a, b | Capacitor | 21C45322G31 | 21C45322G31 | 21C45322G31 | 21C45322G31 | 21C45322G31 | None Use |
| R701a, b | Resistor | 06S44593P21 | 06S44593P21 | 06S44593P21 | 06S44593P21 | 06S44593P21 | None Use |

Exploded View Parts List

Note : * The parts whose parts numbers are not entered will not be supplied.

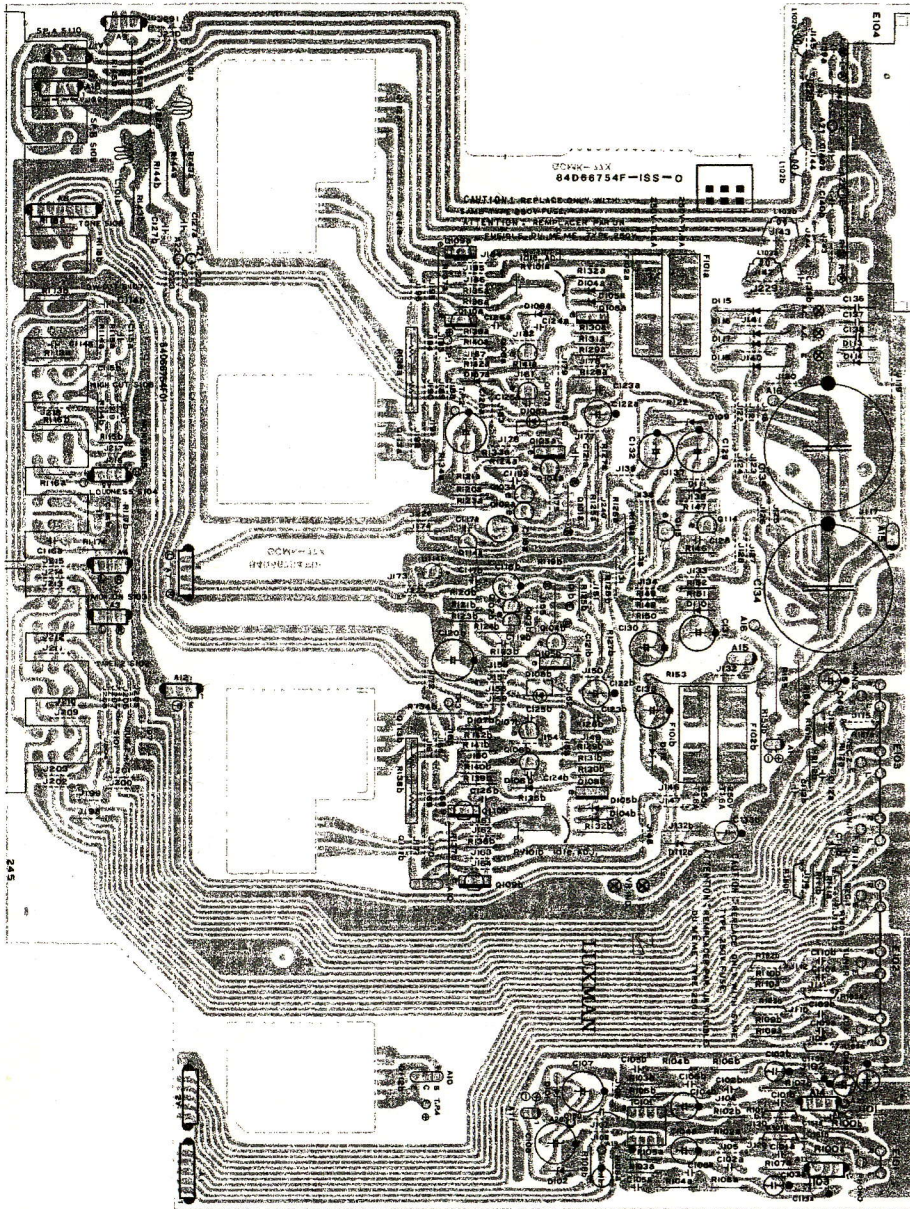
| Index | Symbol No. | Stock No. | Description | Remarks |
|--------|------------|-------------|--------------------------------|------------|
| D5 | 1 | * | Chassis Front | |
| C5 | 2 | 43A66824F01 | Bush, Lamp | |
| E6 | 3 | * | Bracket, R | |
| G5 | 4 | * | Ass'y Pre M/A PCB | |
| D5 | 6 | 43A62016F02 | Bushing, UZ1077-2 | |
| D5 | 7 | 40T57371F01 | Switch, Push SUFR1 [L-235] | |
| D4 | 8 | 45T57373F01 | Cable, Remote SWR 1198 [L-235] | |
| C2 | 9 | 09T51830F01 | Plug, Switch P-2120 | AK, AG |
| C2 | 10 | 09T51831F01 | Socket, Switch M-1615 | AK, AG |
| F1 | 11 | 09T67078F01 | Inlet, 2P | AK, AG |
| A3 | 12 | * | Bracket, Trans | |
| G1 | 13 | 09T57066F01 | AC, Outlet S2-724B-04 | UP |
| C4 | 14 | * | Bracket, Trans | |
| A2 | 15 | * | Bracket, Fuse | |
| A2 | 16 | 09T51074F01 | Fuse Holder | |
| | | 09T51828F01 | Fuse Holder X-N1157 | UP |
| A2 | 18 | * | Spacer, Fuse | |
| A2 | 19 | * | Lug, Wrap Around | |
| | 20 | * | Cushion, Rubber | |
| B1 | 21 | * | Spacer, 60x34 | |
| E3 | 22 | 07C56635F01 | Heat Sink, 15 [L-225] | |
| | | 07C56668F01 | Heat Sink, 30 | |
| F3 | 26 | * | Support, Tr | |
| E1, G2 | 27 | 15D56636F21 | Cover, Rear [L-225] | |
| | | 15D56636F22 | Cover, Rear | |
| | | 15D56636F26 | Cover, Rear | AK, AG |
| | | 15D56636F29 | Cover, Rear | UP |
| F1, G1 | 28 | 28T43182P02 | Plug, AC Cord | SK, SD |
| | | 30T67077F01 | Cord Set | AK |
| | | 30T67359F01 | Cord Set | AG |
| | | 28T55335P02 | Plug, AC Cord | UP |
| G2 | 29 | 43B41625J02 | Support, Cord | SK, SD, UP |
| H2 | 30 | 29T66964F01 | Terminal, GND | |
| G2 | 31 | * | Lug, Wrap Around | |
| F2 | 32 | * | Bracket, PCB [L-235] | |
| C4 | 33 | 40T45561F01 | Switch Power (SDL1P) [L-225] | |
| | | 40T45561F02 | Switch Power (SDLIP) | |
| C4 | 35 | * | Bush, Cap | |
| G3 | 36 | * | Ass'y AV Input | |
| C7 | 37 | 01V68100F48 | Ass'y Panel Front [L-225] | |
| | | 01V68100F58 | Ass'y Panel Front | |
| C6 | 38 | 36A66510F01 | Knob, Rotary VR A | |
| | | 36A66510F02 | Knob, Rotary VR A | UP |
| B5 | 39 | 36B66511F01 | Knob, Rotary VR B | |
| | | 36B66511F03 | Knob, Rotary VR B | UP |
| C6 | 40 | 36B66512F01 | Knob, Rotary VR C | |
| | | 36B66512F03 | Knob, Rotary VR C | UP |
| B5 | 41 | 36A56639F02 | Knob, Push 1171 | |
| C5 | 42 | 36A66836F02 | Knob, Push | |
| C6 | 43 | 36A57180F01 | Knob, Push(B) [L-235] | |
| C2 | 44 | 15C56629F02 | Cover, Top | |
| F6 | 45 | * | Cover, Bottom | |
| A4, G7 | 46 | 75A52969F01 | Pad, Trann-leg | |
| A5 | 47 | * | Insulator, 50x5 | |
| B6 | 48 | 61A66858F02 | Filter, Lamp | |
| B7 | 49 | 64D66508F03 | Panel, Front [L-225] | |

| Index | Symbol No. | Stock No. | Description | Remarks |
|--------|------------|-------------|-------------------------------|---------|
| B7 | 49 | 64D66508F04 | Panel, Front | |
| A5, B7 | 50 | 07B56624F03 | Frame, Panel Side | |
| A5 | 51 | 61A56641F01 | Crystal, Indicator | |
| B5 | 52 | 43A56628F01 | Spacer, Power | |
| C6 | 53 | 07B56643F01 | Frame, Knob 1140 | |
| C6 | 54 | 61A61746F01 | Lens 1020-WG1020 | |
| C6 | 55 | 07A56645F01 | Frame, Knob 1156 | |
| A5, B5 | 56 | 07A56648F01 | Frame, Knob | |
| B6 | 57 | 07C56907F01 | Frame, Knob 1153 | |
| B6 | 58 | 07B56646F01 | Frame, Knob 1154 | |
| B6 | 59 | 07C56647F01 | Frame, Knob 1155 | |
| C6 | 60 | 07A57407F01 | Frame, Knob 1163 [L-235] | |
| B6 | 61 | 61A66643F01 | Crystal, Acryl A | |
| D4 | 63 | * | Ass'y, Tone Control PCB | |
| D4 | 64 | * | Ass'y, Function SW PCB | |
| D5 | 65 | * | Ass'y, VR Control PCB | |
| D4 | 66 | * | Ass'y, HD Phone PCB | |
| D4 | 67 | * | Ass'y, Balance Control PCB | |
| F2 | 68 | * | Ass'y, MC SW PCB [L-235] | |
| B3, B4 | 101 | 03S44205G02 | Screw, T-Tite M3x6 | |
| B5, C5 | 102 | 03C40014G04 | Screw, MCH M3x6 | |
| E2 | 103 | 03C42723U02 | Screw, CUP M3x8 | |
| G1, H3 | 104 | 03S40036U18 | Screw, T-Tite M3x8 T.L. | |
| G2, H2 | 105 | 03S40012G41 | Screw, Tapping M3x8 | |
| F2 | 106 | 03C42723U01 | Screw, CUP M3x6 [L-235] | |
| F5 | 107 | 03S40018G02 | Screw, Tapping M3x8 | |
| B4 | 108 | 03S40036U01 | Screw, T-Tite M4x8 | |
| A1, A2 | 109 | 03S44205G02 | Screw, T-Tite M3x6 | |
| E4 | 110 | 03C40121T15 | Screw, MCH M3x12 | |
| F4 | 111 | 03S40012G28 | Screw, Tapping M3x8 | |
| H2 | 112 | 03S40036U18 | Screw, T-Tite M3x8 T.L. | |
| H2 | 113 | 03S44205G02 | Screw, T-Tite M3x6 [L-235] | |
| H2 | 114 | 03S40012G41 | Screw, Tapping M3x8 | |
| A5, A6 | 115 | 03S40012G55 | Screw, Tapping M3x8 | |
| B1, E3 | 116 | 03S40036U01 | Screw, T-Tite M4x8 | |
| D1, G7 | 117 | 03S44205G02 | Screw, T-Tite M3x6 | |
| A4, G7 | 118 | 03S44205G25 | Screw, T-Tite M4x10 | |
| C2 | 119 | 03S44205G03 | Screw, T-Tite M3x8 | AK, AG |
| F1 | 120 | 03S40012G98 | Screw, Tapping M3x8 Flat | AK, AG |
| D4 | | 18T56663F01 | Volume 50KCx2 | |
| C4 | | 18T56663F01 | Volume 50KCx2 | |
| E5 | | 18T68333F01 | Volume 10KBx2 | |
| E5 | | 18T56666F01 | Volume 250KW | |
| G3 | | 09T57203F01 | Plate, Phono 2P | |
| G4 | | 09T57203F01 | Plate, Phono 2P | |
| G4 | | 09T57203F02 | Plate, Phono 6P | |
| G4 | | 09T57203F02 | Plate, Phono 6P | |
| F4 | | 09T51101F01 | Terminal, SP | |
| C4 | | 09T56010F01 | Jack, Head Phone M1669 | |
| E5 | | 40T56653F01 | Switch, Push SUN 33 | |
| E5 | | 40T56667F01 | Switch, Push SUN73 | |
| D4 | | 40T56664F01 | Switch, Rotary SRZ | |
| F2 | | 40T57372F01 | Switch, Slide SSR2435 [L-235] | |
| D6 | | 65T66752F02 | Lamp, Pilot ORG | |
| D6 | | 65T66752F02 | Lamp, Pilot ORG | |
| D6 | | 65T66752F03 | Lamp, Pilot GRN | |
| D6 | | 65T66752F02 | Lamp, Pilot ORG | |
| D5 | | 65T66752F01 | Lamp, Pilot | |

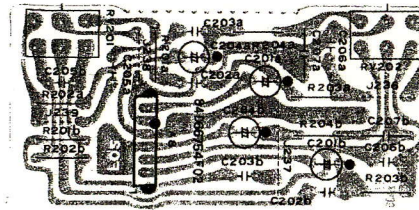
| Index | Symbol No. | Stock No. | Description | Remarks |
|--------|------------|-------------|--------------------------------|---------|
| B2 | | 25T66799F01 | Trans Power [L-225] | |
| | | 25T66801F01 | Trans Power | |
| | | 25T56590F01 | Trans Power 230E | |
| | | 25T56591F01 | Trans Power 230U | AK, AG |
| E3, F3 | | 48T47682F02 | Transistor 2SC1845 FA | UP |
| E4, F5 | | 48T57130F03 | Transistor 2SC3180 O.R [L-225] | |
| | | 48T57132F03 | Transistor 2SC3181 O.R | |
| F4 | | 48T57129F03 | Transistor 2SA1263 O.R [L-225] | |
| | | 48T57131F03 | Transistor 2SA1264 O.R | |
| C4 | | 08T57437F09 | Capacitor (Ac) 0.01uF | |
| A1 | | 65T42077U18 | Fuse Semko T1.6 A | |
| | | 65T57086F07 | Fuse 51NM 2.0 -250 [L-225] | |
| | | 65T52486F12 | Fuse MF61NM 5-125 | UP |

PCB

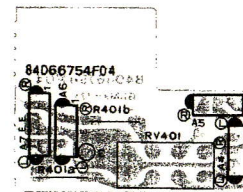
Pre Main Amp PCB



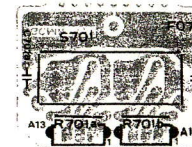
Tone Control PCB



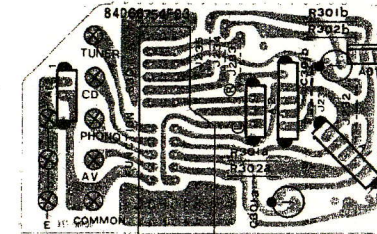
VR Control PCB



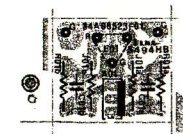
MC SW PCB



Function SW PCB



AV Input Terminal PCB



Pre Main Amp PCB Parts List

| Symbol No. | Stock No. | Description |
|--------------------------------------|-------------|--------------------------|
| (Fuse) | | |
| F101a,b | 65T42077U19 | Semko T2.0 A |
| F101a,b | 65T57086F09 | 51NM3.0-250 [L-225] (UP) |
| F102a,b | 65T42077U19 | Semko T2.0 A |
| F102a,b | 65T57086F09 | 51NM3.0-250 [L-225] (UP) |
| (Variable Resistor) | | |
| RV101a,b | 18C42061J28 | 470-B |
| (Coil) | | |
| L101a,b | 24T67516F01 | 1.1uH |
| L102a,b | 24T67516F01 | 1.1uH (SD) |
| L103a,b | 24T57516F01 | 1.1uH (SD) |
| (IC) | | |
| IC101 | 51T52153F01 | NJM2043D-D |
| (Transistor & FET) | | |
| Q101a,b | 48T53430F01 | 2SA979-G |
| Q102a,b | 48S43525F05 | 2SC1815-Y,GR |
| Q103a,b | 48S43525F05 | 2SC1815-Y,GR |
| Q104a,b | 48S43525F05 | 2SC1815-Y,GR |
| Q105a,b | 48T56658F01 | 2SC1904 B,V |
| Q106a,b | 48S43525F02 | 2SC1815-Y |
| Q107a,b | 48T51118F01 | 2SA1015-Y |
| Q108a,b | 48T56657F01 | 2SA899 B,V |
| Q109a,b | 48T56660F03 | 2SC2824 O,Y |
| Q110a,b | 48T56659F03 | 2SA1184 O,Y |
| Q114 | 48T47682F02 | 2SC1845 FA |
| Q114a,b | 48T52152F01 | 2SK30A-GR |
| Q115 | 48S43525F05 | 2SC1815-Y,GR |
| (Diode & Zener & LED) | | |
| D1 | 48T51117F01 | 1S1553 |
| D2 | 48T51117F01 | 1S1553 |
| D3 | 48T51117F01 | 1S1553 |
| D4 | 48T51117F01 | 1S1553 |
| D101 | 48T52741F54 | HZ18 -3L -AX |
| D102 | 48T52741F54 | HZ18 -3L -AX |
| D104a,b | 48T51117F01 | 1S1553 |
| D105a,b | 48T51117F01 | 1S1553 |
| D106a,b | 48T51117F01 | 1S1553 |
| D107a,b | 48T51117F01 | 1S1553 |
| D108a,b | 48T40955T01 | TLR124 RED |
| D109 | 48T52741F62 | HZ24 -2L -AX |
| D110 | 48T51117F01 | 1S1553 |
| D111 | 48T44992F01 | DS135D |
| D112a,b | 48T52739F87 | HZ20 -3 |
| D113 | 48T44992F01 | DS135D |
| D114 | 48T44992F01 | DS135D |
| D115 | 48T51115F02 | S3V20(4004) |
| D116 | 48T51115F02 | S3V20(4004) |
| D117 | 48T51115F02 | S3V20(4004) |
| D118 | 48T51115F02 | S3V20(4004) |
| (Capacitor) | | |
| C101a,b | 08C42195G20 | (St) 47pF 125V |
| C101a,b | 08T42081U01 | (Pp) 100pF [L-225] |
| C101a,b | 08T42081U25 | (Pp) 1000pF (SD) |
| C102a,b | 08S40805F11 | (Ce) 2200pF (SD) |
| C103a,b | 23S40657F11 | (EI) 22uF 16V |
| C104a,b | 23T44501P08 | (EI) 2.2uF 25V [L-225] |

| Symbol No. | Stock No. | Description |
|-------------------|-------------|------------------------|
| C104a,b | 23T44501P27 | (EI) 47uF 25V |
| C105a,b | 08S40656F22 | (My) 56000pF |
| C106a,b | 08S40656F15 | (My) 15000pF |
| C107 | 23S41198U42 | (EI) 220uF 25V |
| C108 | 23S41198U42 | (EI) 220uF 25V |
| C109,b | 08T42081U05 | (Pp) 150pF (SD) |
| C110a,b | 08T42081U05 | (Pp) 150pF (SD) |
| C111a,b | 08T42081U05 | (Pp) 150pF (SD) |
| C112a,b | 08T42081U05 | (Pp) 150pF (SD) |
| C113a,b | 23T43197F17 | (EI) 4.7uF 50V [L-235] |
| C114a,b | 23T57007F02 | (EI) 0.22uF 50V |
| C115a,b | 08S40656F10 | (My) 5600pF |
| C116a,b | 08S40656F21 | (My) 47000pF |
| C117a,b | 08C42081U01 | (Pp) 100pF [L-225] |
| C117a,b | 08C42195G20 | (St) 47pF 125V |
| C118a,b | 23T44501P08 | (EI) 3.3uF 25V |
| C119a,b | 08S40656F06 | (My) 2700pF |
| C120a,b | 23S41198U37 | (EI) 100uF 50V [L-225] |
| C120a,b | 23S41198U44 | (EI) 220uF 50V |
| C121a,b | 08C42195G15 | (St) 33pF 125V |
| C122a,b | 23S40657F08 | (EI) 100uF 10V |
| C123a,b | 08T40655F06 | (MI) 3pF 50V |
| C123a,b | 08T55119F03 | (MI) 3pF 50V |
| C124a,b | 08S40656F05 | (My) 2200pF |
| C125a,b | 08S40656F05 | (My) 2200pF |
| C126a,b | 08S40656F01 | (My) 1000pF |
| C127a,b | 08S40656F21 | (My) 47000pF |
| C128 | 08S40656F01 | (My) 1000pF |
| C129 | 23S41198U37 | (EI) 100uF 50V [L-225] |
| C129 | 23S41198U38 | (EI) 100uF 63V |
| C130 | 23S40657F35 | (EI) 47uF 50V |
| C131 | 23S40657F35 | (EI) 47uF 50V [L-225] |
| C131 | 23S40657F43 | (EI) 33uF |
| C132 | 23S40657F20 | (EI) 47uF 25V |
| C133a,b | 23S40657F26 | (EI) 47uF 35V |
| C134 | 23T56654F01 | (EI) 10000uF 50V |
| C135 | 23T56654F01 | (EI) 10000uF 50V |
| C136 | 08S44505P61 | (Ce) 10000pF (SD) |
| C137 | 08S44505P61 | (Ce) 10000pF (SD) |
| C138 | 08S44505P61 | (Ce) 10000pF (SD) |
| C139a,b | 08S40656F13 | (My) 10000pF (SD) |
| C140a,b | 08S40656F13 | (My) 10000pF (SD) |
| C141 | 23S40657F10 | (EI) 10uF 16V |
| C142 | 23S40657F10 | (EI) 10uF 16V |
| C143 | 23S40657F10 | (EI) 10uF 16V |
| C150 | 21C45322G33 | (Ce) 0.047uF (SD) |
| C151a,b | 21C45322G28 | 1000pF 50V (SD) |
| (Resistor) | | |
| R1 | 06S40150T96 | (Rd) 20KΩ 1/4W |
| R2 | 06S40150T96 | (Rd) 20KΩ 1/4W |
| R3 | 06S40150T96 | (Rd) 20KΩ 1/4W |
| R4 | 06S40150T96 | (Rd) 20KΩ 1/4W |
| R100a,b | 06S44593P43 | (Rd) 120Ω 1/4W [L-235] |
| R101a,b | 06S44593P57 | (Rd) 470Ω 1/4W (SD) |
| R102a,b | 06S44594P08 | (Rd) 56KΩ 1/4W |
| R103a,b | 06S44594P08 | (Rd) 56KΩ 1/4W |
| R104a,b | 06S44593P81 | (Rd) 4.7KΩ 1/4W |
| R105a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |

| Symbol No. | Stock No. | Description |
|------------|-------------|-----------------------|
| R106a,b | 06S44593P29 | (Rd) 33Ω 1/4W |
| R107a,b | 06S44593P37 | (Rd) 68Ω 1/4W |
| R108a,b | 06S44593P57 | (Rd) 470Ω 1/4W |
| R109a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |
| R110a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |
| R111a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |
| R112a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |
| R113a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |
| R114a,b | 06S44594P38 | (Rd) 1MΩ 1/4W |
| R115a,b | 06S44593P75 | (Rd) 2.7KΩ 1/4W |
| R116a,b | 06S44593P75 | (Rd) 2.7KΩ 1/4W |
| R117a,b | 06S44593P89 | (Rd) 10KΩ 1/4W |
| R118a,b | 06S44594P36 | (Rd) 820KΩ 1/4W |
| R119a,b | 06S44594P36 | (Rd) 820KΩ 1/4W |
| R120a,b | 06S44593P49 | (Rd) 220Ω 1/4W |
| R121a,b | 06S44593P49 | (Rd) 220Ω 1/4W |
| R122 | 06T55177F75 | (Rm) 2.7KΩ 1W |
| R123a,b | 06S44594P22 | (Rd) 220KΩ 1/4W |
| R124a,b | 06S44593P49 | (Rd) 220Ω 1/4W |
| R125a,b | 06S44594P08 | (Rd) 56KΩ 1/4W |
| R126a,b | 06S44593P87 | (Rd) 8.2KΩ 1/4W |
| R127a,b | 06S44593P57 | (Rd) 470Ω 1/4W |
| R128a,b | 06S44593P87 | (Rd) 8.2KΩ 1/4W |
| R129a,b | 06S44594P06 | (Rd) 47KΩ 1/4W |
| R130a,b | 06S44593P99 | (Rd) 27KΩ 1/4W |
| R131a,b | 06S44593P99 | (Rd) 27KΩ 1/4W |
| R132a,b | 06T55175F47 | (Rm) 180Ω 1/2W |
| R132a,b | 06T00003L41 | (Rd) 100Ω 1/2W (SD) |
| R133a,b | 06T55175F17 | (Rm) 10Ω 1/2W |
| R134a,b | 06T55175F27 | (Rm) 27Ω 1/2W [L-225] |
| R134a,b | 06T55175F41 | (Rm) 100Ω 1/2W |
| R135a,b | 06S44593P73 | (Rd) 2.2KΩ 1/4W |
| R136a,b | 06S44593P61 | (Rd) 680Ω 1/4W |
| R137a,b | 06S55177F55 | (Rm) 390Ω 1W |
| R138a,b | 06T51107F01 | (Rc) 0.22Ωx2 5W |
| R139a,b | 06S44593P53 | (Rd) 330Ω 1/4W |
| R142a,b | 06S44593P53 | (Rd) 330Ω 1/4W |
| R143a,b | 06T55175F17 | (Rm) 10Ω 1/2W |
| R144a,b | 06T55177F17 | (Rm) 10Ω 1W |
| R145a,b | 06T55179F57 | (Rm) 470Ω 2W |
| R146 | 06S44593P85 | (Rd) 6.8KΩ 1/4W |
| R147 | 06S44593P33 | (Rd) 47Ω 1/4W |
| R148 | 06S44593P93 | (Rd) 15KΩ 1/4W |
| R149 | 06S44594P18 | (Rd) 150KΩ 1/4W |
| R150 | 06S44594P08 | (Rd) 56KΩ 1/4W |
| R151 | 06S44594P08 | (Rd) 56KΩ 1/4W |
| R153a,b | 06T56661F53 | (Rm) 360Ω 3W [L-225] |
| R153a,b | 06T56661F54 | (Rm) 360Ω 3W |
| R154 | 06T55179F75 | (Rm) 2.7KΩ 2W |
| R155 | 06T55179F75 | (Rm) 2.7KΩ 2W |
| R160a,b | 06S44593P45 | (Rd) 150Ω 1/4W (SD) |
| R161a,b | 06S44593P45 | (Rd) 150Ω 1/4W (SD) |
| R162a,b | 06S44593P45 | (Rd) 150Ω 1/4W (SD) |
| R163a,b | 06S44593P45 | (Rd) 150Ω 1/4W (SD) |

Tone Control PCB Parts List

| Symbol No. | Stock No. | Description |
|--------------------|-------------|-----------------|
| (Capacitor) | | |
| C201a,b | 23S40657F16 | (EI) 4.7uF 25V |
| C202a,b | 08S40656F11 | (My) 6800pF |
| C203a,b | 08S40656F20 | (My) 39000pF |
| C204a,b | 23S40657F11 | (EI) 22uF 16V |
| C205a,b | 21S40655F31 | (Ce) 560pF |
| C206a,b | 08S40657F22 | (My) 0.056uF |
| C207a,b | 08S44503P30 | (My) 0.27uF 50V |
| (Resistor) | | |
| R201a,b | 06S44593P71 | (Rd) 1.8KΩ 1/4W |
| R202a,b | 06S44593P53 | (Rd) 330Ω 1/4W |
| R203a,b | 06S44593P87 | (Rd) 8.2KΩ 1/4W |
| R204a,b | 06S44593P69 | (Rd) 1.5KΩ 1/4W |

Function SW PCB Parts List

| Symbol No. | Stock No. | Description |
|--------------------|-------------|-----------------|
| (Capacitor) | | |
| C301a,b | 23T44501P06 | (EI) 2.2uF 35V |
| (Resistor) | | |
| R301a,b | 06S44594P30 | (Rd) 470KΩ 1/4W |

VR Control PCB Parts List

| Symbol No. | Stock No. | Description |
|-------------------|-------------|----------------|
| (Resistor) | | |
| R401a,b | 06S44593P57 | (Rd) 470Ω 1/4W |

MC SW PCB Parts List (L-235)

| Symbol No. | Stock No. | Description |
|--------------------|-------------|---------------|
| (Capacitor) | | |
| C701a,b | 21C45322G31 | 10000pF 50V |
| (Resistor) | | |
| R701a,b | 06S44593P21 | (Rd) 15Ω 1/4W |

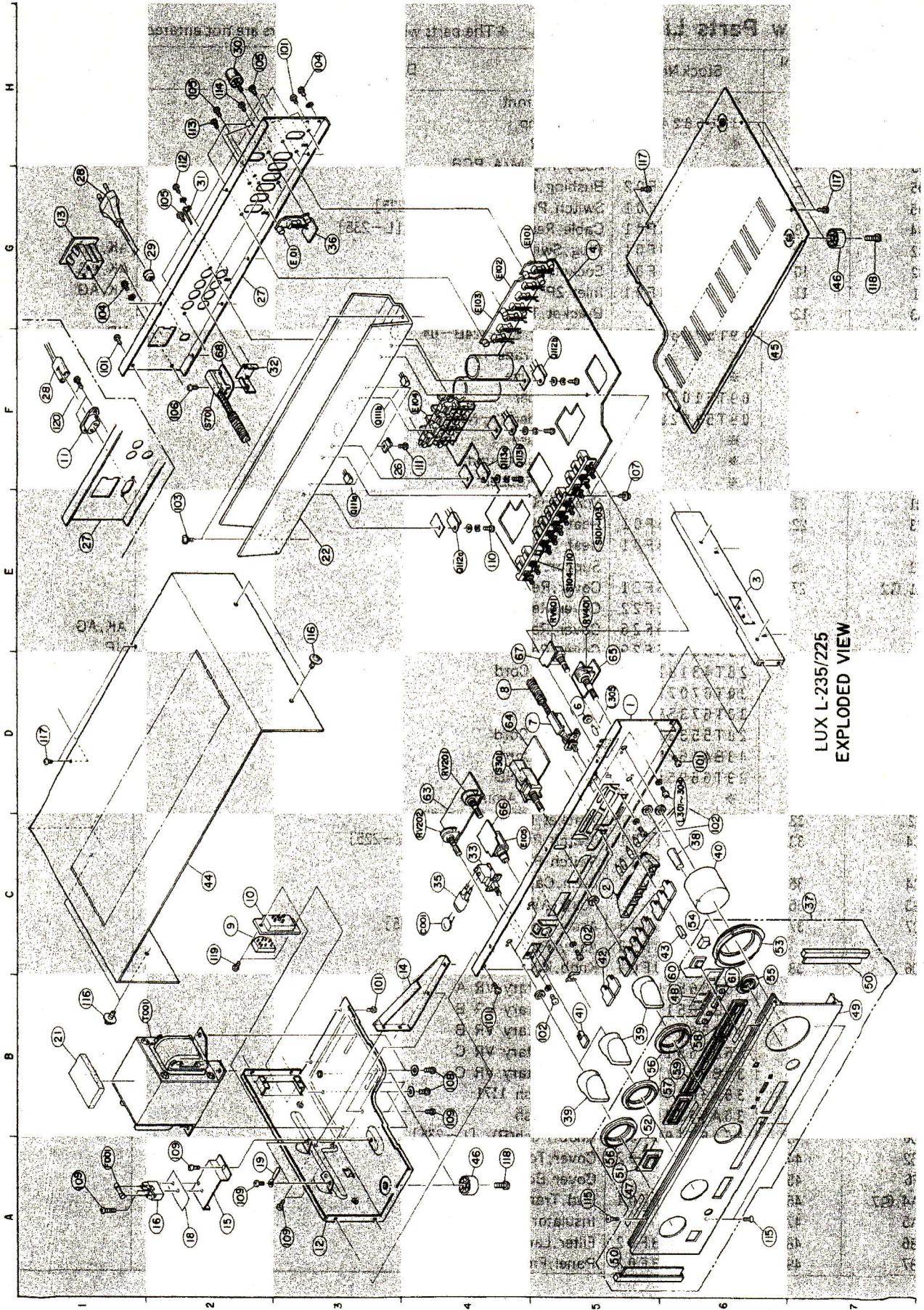
AV Input Terminal PCB Parts List

| Symbol No. | Stock No. | Description |
|-------------------|-------------|---------------------|
| (Resistor) | | |
| J1a,b | | Jumper Wire |
| J1a,b | 06S40150T45 | (Rd) 150Ω 1/4W (SD) |
| (Resistor) | | |
| R1a,b | 06S40151T38 | (Rd) 1.0MΩ 1/4W |

Remarks

- Resistor : Rd ... Carbon
- Rf ... Frame Proof
- Rc ... Cement
- Capacitor : El. ... Electrolytic
- Ce ... Ceramic
- My ... Mylar
- St. ... Styrol
- Mi ... Mica
- Pp ... Polypropylene

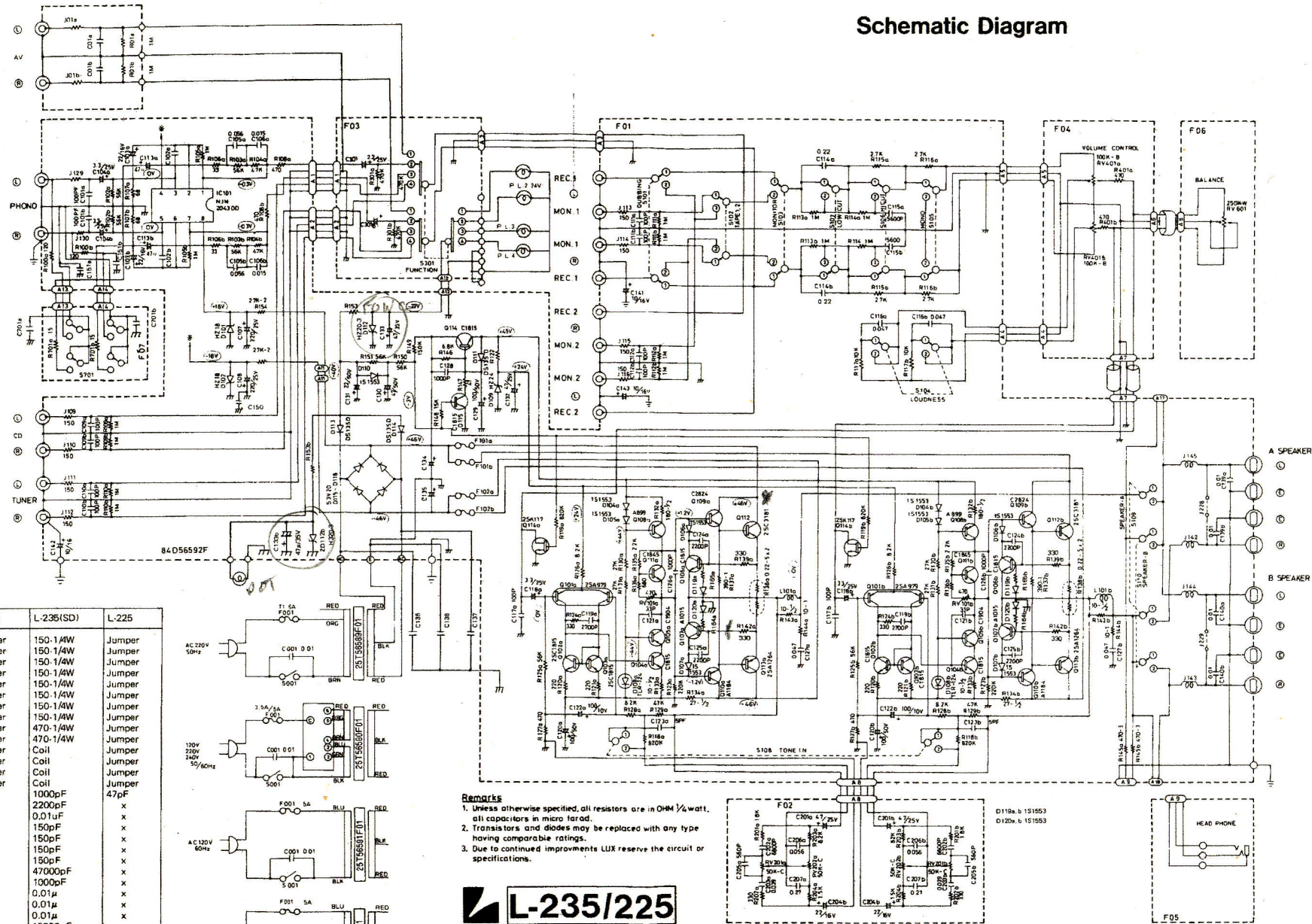
Exploded View



LUX L-235/225
EXPLODED VIEW

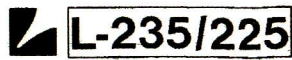
L-235/225

Schematic Diagram



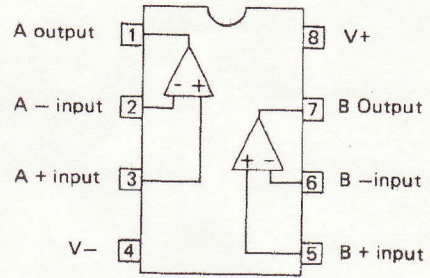
| Symbol No. | L-235 | L-235(SD) | L-225 |
|------------|---------|-----------|--------|
| J109 | Jumper | 150-1/4W | Jumper |
| J110 | Jumper | 150-1/4W | Jumper |
| J111 | Jumper | 150-1/4W | Jumper |
| J112 | Jumper | 150-1/4W | Jumper |
| J113 | Jumper | 150-1/4W | Jumper |
| J114 | Jumper | 150-1/4W | Jumper |
| J115 | Jumper | 150-1/4W | Jumper |
| J116 | Jumper | 150-1/4W | Jumper |
| J129 | Jumper | 470-1/4W | Jumper |
| J130 | Jumper | 470-1/4W | Jumper |
| J142 | Jumper | Coil | Jumper |
| J143 | Jumper | Coil | Jumper |
| J144 | Jumper | Coil | Jumper |
| J145 | Jumper | Coil | Jumper |
| C101a, b | | 47pF | 47pF |
| C102a, b | x | 2200pF | x |
| C103a, b | x | 0.01uF | x |
| C109a, b | x | 150pF | x |
| C110a, b | x | 150pF | x |
| C111a, b | x | 150pF | x |
| C112a, b | x | 150pF | x |
| C150 | | 47000pF | x |
| C151a, b | | 1000pF | x |
| C136 | | 0.01u | x |
| C137 | | 0.01u | x |
| C138 | | 0.01u | x |
| C701a, b | | 10000pF | x |
| F102a, b | T2A | 3A | x |
| F101a, b | T2A | 3A | x |
| R153 | 360-3 | 360-3 | 330-3 |
| S701 | | | x |
| R701a, b | 15 -1/4 | 15 -1/4 | x |
| R100a, b | 120 1/4 | 120-1/4 | x |

Remarks
 1. Unless otherwise specified, all resistors are in OHM 1/4 watt, all capacitors in micro farad.
 2. Transistors and diodes may be replaced with any type having comparable ratings.
 3. Due to continued improvements LUX reserve the circuit or specifications.



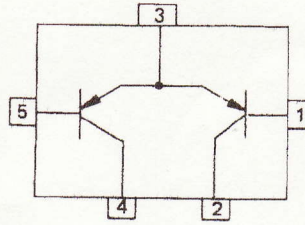
IC Handling Guide

NJM2043D-D
IC101
(Stock No. 51T52153F01)



(Top View)

TR, 2SA979G
Q101a,b
(Stock No. 48T53430F01)



L-285/225

Specifications

| | L-235 | L-225 |
|--|---|---|
| Power Output: | | |
| 8 ohms, 1KHz | 70Wx2 | 60Wx2 |
| Distortion: | 0.02% | 0.02% |
| Input Sensitivity/Impedance: | | |
| Phono MM | 1.8mV/50K ohms | 1.8mV/50K ohms |
| Phono MC | 0.3mV/100 ohms | |
| Tuner, Monitor | 160mV/40K ohms | 160mV/40K ohms |
| AV, CD | 160mV/40K ohms | 160mV/40K ohms |
| S/N Ratio: | | |
| Phono MM(IHF-A weighted, 5mV, input short) | 90dB | 90dB |
| Phono MC (IHF-A weighted) | 67dB | — |
| Tuner, Monitor (IHF-A weighted) | 107dB | 107dB |
| AV/CD (IHF-A weighted) | 107dB | 107dB |
| Residual Noise: | 0.5mV | 0.5mV |
| Filter: | | |
| High cut | 7KHz (-6dB/oct) | 7KHz (-6dB/oct) |
| Subsonic | 20Hz (-6dB/oct) | 20Hz (-6dB/oct) |
| Phono MM Overload: | 130mV | 130mV |
| Frequency Response: | | |
| Phono MM | 20Hz~20KHz (± 0.5 dB) | 20Hz~20KHz (± 0.5 dB) |
| Tuner, Monitor | 10Hz~100KHz (+0, -1.5dB) | 10Hz~100KHz (+0, -1.5dB) |
| AV/CD | 10Hz~100KHz (+0, -1.5dB) | 10Hz~100KHz (+0, -1.5dB) |
| Tone Control: | | |
| Treble | ± 8 dB at 10KHz | ± 8 dB at 10KHz |
| Bass | ± 8 dB at 100Hz | ± 8 dB at 100Hz |
| Loudness (Volume: -3dB): | +8dB at 100Hz | +8dB at 100Hz |
| Dimensions: | 453(W)x317(D)x111(H) mm (17.8"x12.5"x4.4") | 453(W)x317(D)x111(H) mm (17.8"x12.5"x4.4") |
| Weight: | | |
| Net | 7.3kgs | 6.4kgs |
| Gross | 8.5kgs | 7.7kgs |
| Power Consumption: | 120V/2.3A (CSA rated) | 120V/2A (CSA rated) |

Specifications and appearance design subject to change without notice.



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