

NAD

**SERVICE
MANUAL**

2155

STEREO POWER AMPLIFIER

NAD 2155 SERVICE MANUAL

NOTE: This manual covers all versions.

A: U.S.A.

A1: Canada

B: U.K.

B1: Australia

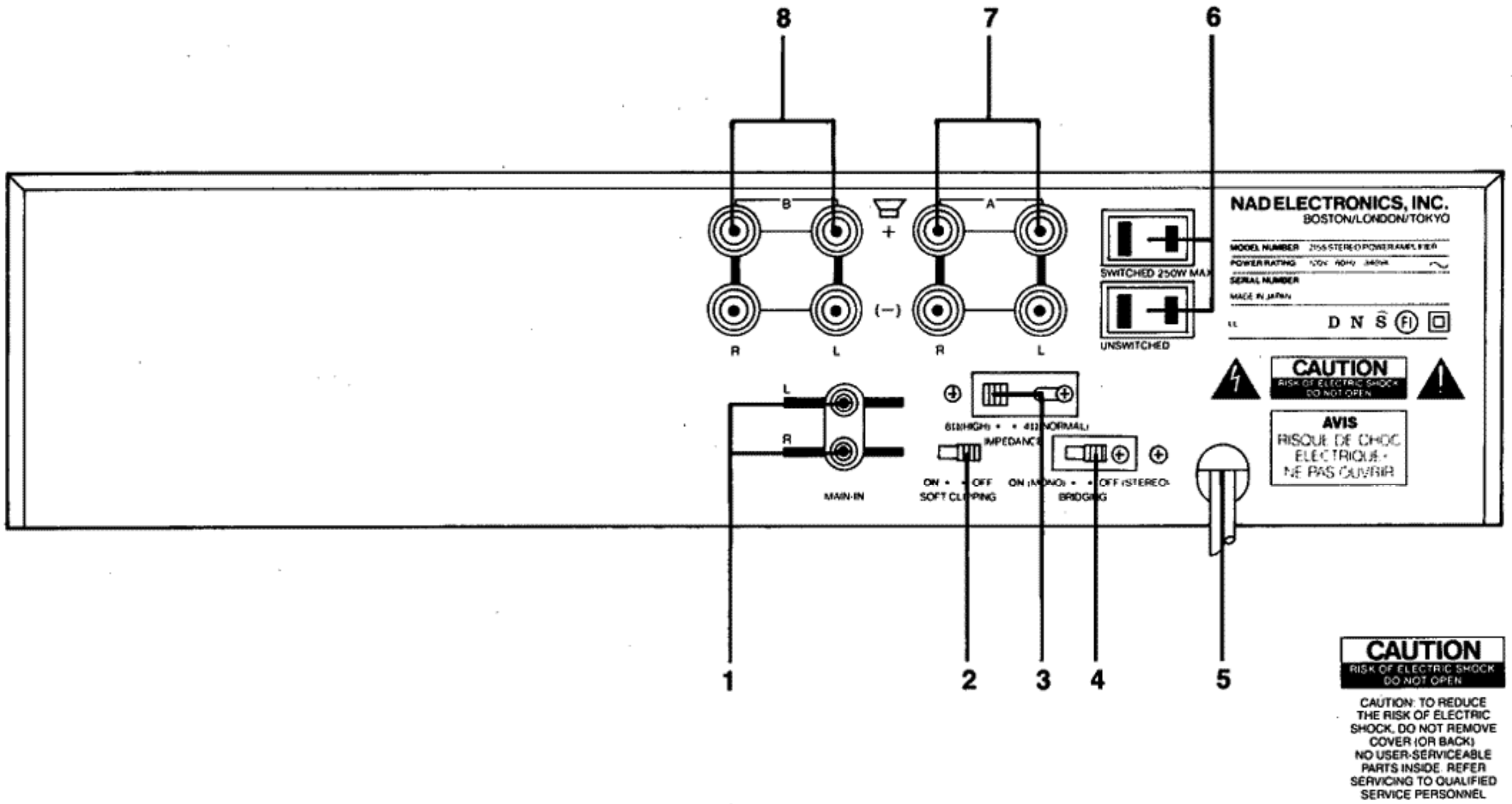
C: Europe and others

C1: W-Germany

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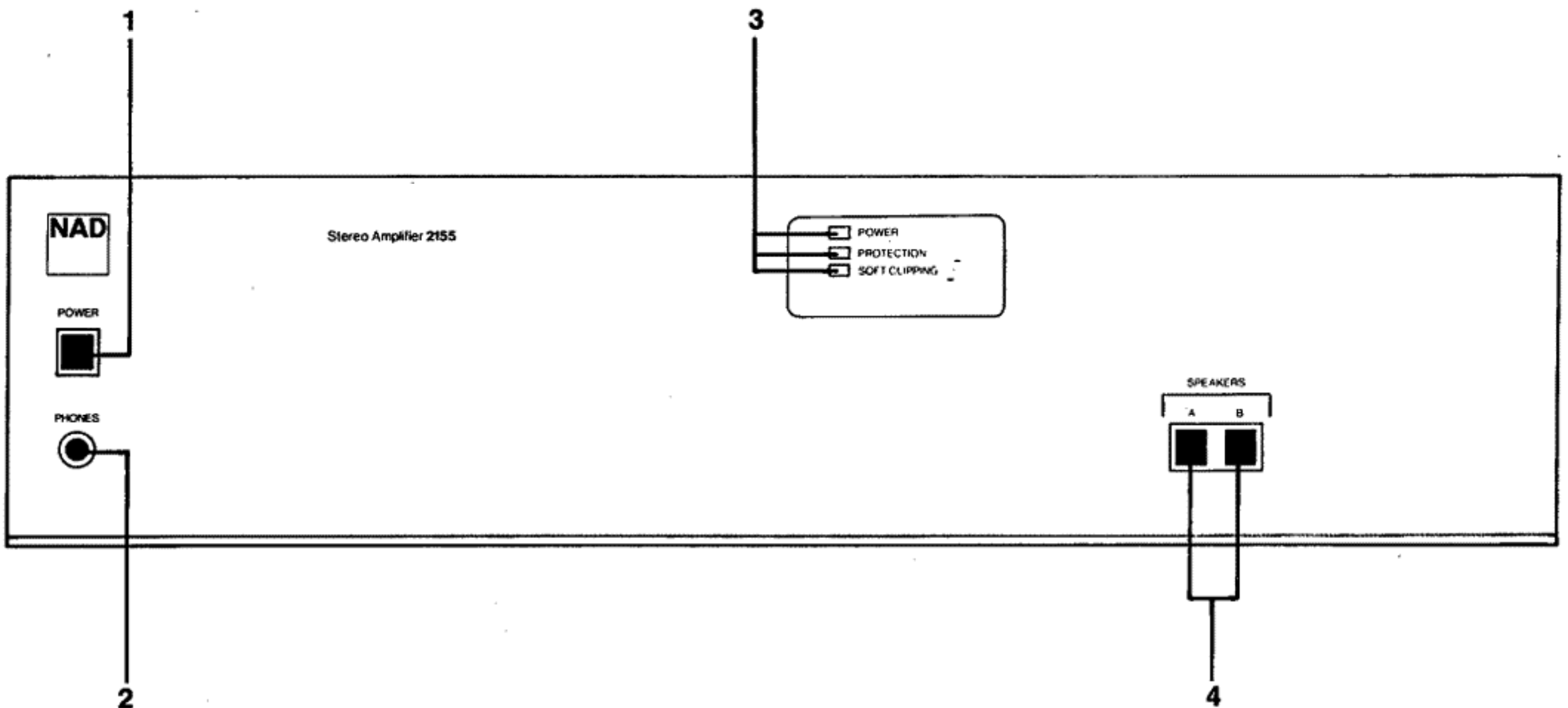
REAR PANEL

1. Input jacks.
2. Soft Clipping.
3. Speaker Impedance.
4. Bridging.
5. AC line cord.
6. AC Convenience outlets (Not in European models)
7. Speakers A.
8. Speakers B.



FRONT PANEL

1. Power.
2. Phones.
3. Status indicators.
4. Speaker selector.



SPECIFICATIONS

NOTE: Measurements referenced to 8 ohms are taken with the Speaker Impedance Selector set to "8 ohm (High)". Measurements for 4 and 2 ohms are taken with the impedance selector at "4 ohm (Normal)". Specifications are measured in accordance with EIA Standard RS-490 (IHF A-202).

Power Amplifier Section, Stereo Mode

| | All versions except USA. | USA version only. |
|---|---|-------------------------|
| CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS (min. RMS power per channel into 8 ohms, 20 Hz - 20 kHz, both channels driven, with no more than the rated distortion). | 55 W (17.4 dBW) | 55 W (17.4 dBW) |
| Rated distortion (THD), 20 Hz - 20 kHz. | 0.03 % | 0.03 % |
| Clipping power (max. continuous power per channel). | 8 ohms: 65 W 4 ohms: 75 W | 75 W 90 W |
| IHF dynamic headroom at 8 ohms. | + 2.6 dB | + 3 dB |
| IHF dynamic power (max. short-term power per channel). | 8 ohms: 100 W 4 ohms: 100 W 2 ohms: 130 W | 110 W 130 W 150 W |
| Slew factor. | > 50 | |
| Slew rate. | 20 V/ μ sec. | |
| Damping factor (ref. 8 ohms, at 50 Hz). | > 50 | |
| Input impedance. | 22 k ohms. | |
| Input sensitivity for 1 W/55 W out. | 0.13 V/0.95 V | |
| Power amp. gain. | 26.8 dB. | |
| THD (Total Harmonic Distortion, 20 Hz - 20 kHz, from 250 mW to rated output). | < 0.03 % | |
| SMPTE I.M. (Intermodulation Distortion 60 Hz : 7 kHz, 4 : 1, from 250 mW to rated output). | < 0.03 % | |
| IHF I.M. (CCIR IM Distortion, 19 to 20 kHz at rated output). | < 0.03 % | |

Bridged (Monophonic) Mode

| | | |
|---|----------------|----------------|
| CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS (min. RMS power into 8 ohms, 20 Hz - 20 kHz, with no more than the rated distortion). | 125 W (21 dBW) | 150 W (22 dBW) |
| IHF Dynamic Headroom at 8 ohms. | + 2.5 dB | |
| Dynamic power (max. short-term output, 8 ohms). | 250 W | |

Physical Specifications

| | |
|-------------------------------------|---|
| Dimensions (width x height x depth) | 42 x 10 x 35 cm. 16.5 x 4 x 13.8 in. |
| Net weight | 7.88 Kg./17 lb. 6 oz. |
| Shipping weight | 9.20 Kg./20 lb. 8 oz. |
| Power requirements | 50/60 Hz at 110, 120, 220, or 240 VAC. 340W. |

ALIGNMENTS

A IDLE (QUIESCENT) CURRENT

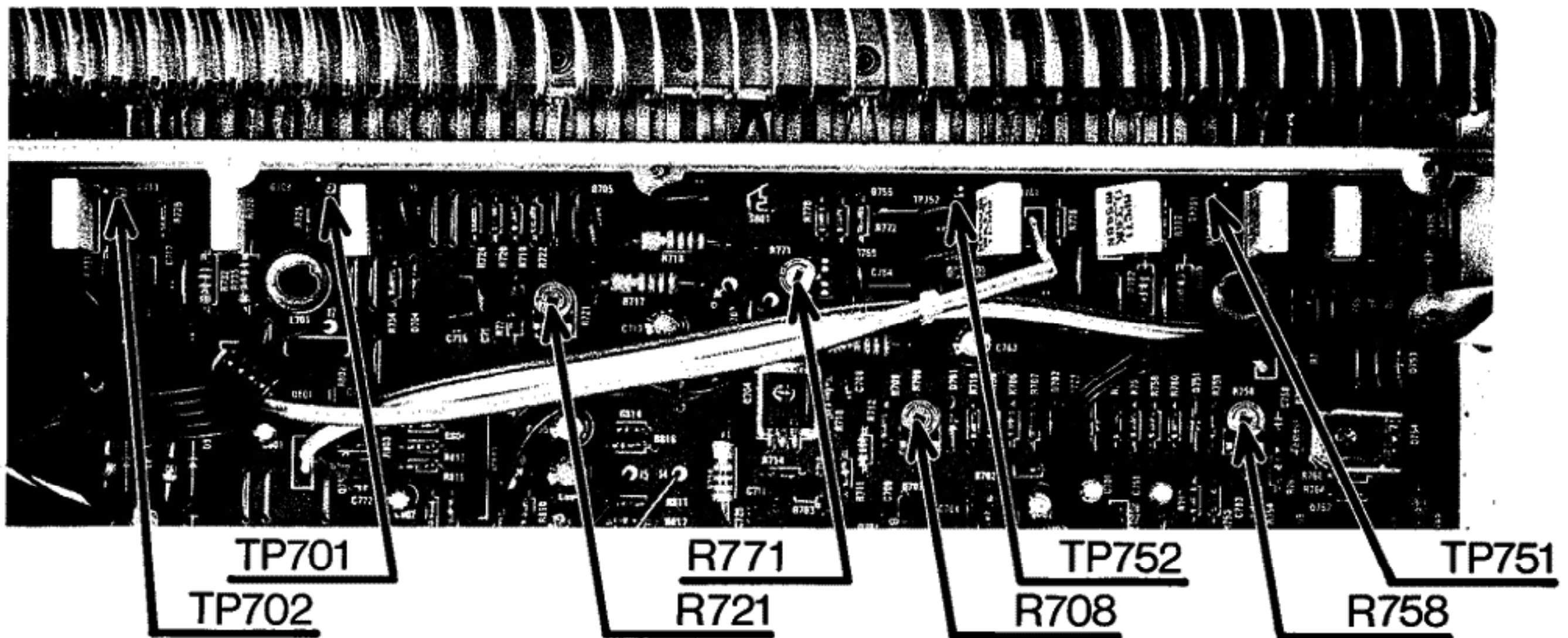
- 1 Connect mV meter (DVM) from TP 701 to TP 702, left chan. (from TP 751 to TP 752, right chan.)
- 2 Adjust R 721, left chan. (R 771, right chan.) so that meter reading is 20 - 25 mVDC.

NOTE: Reading may take a few minutes to stabilize; re-check after offset adjustment (next step.)

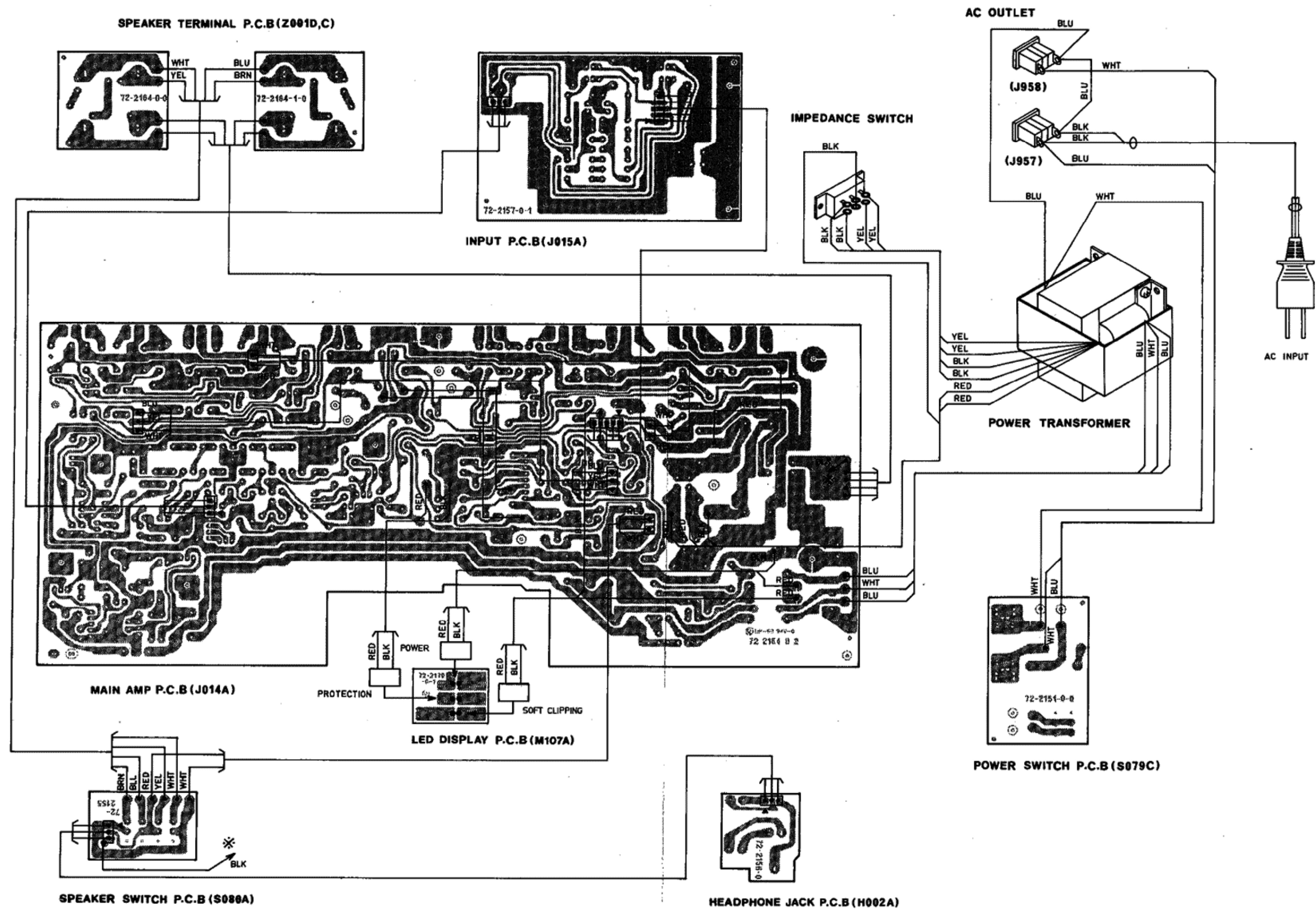
B OFFSET (CENTERING) VOLTAGE:

Adjust R 708, left (R 758, right) so that voltage at spkr. terminals is 0 ± 50 mVDC.

NOTE: Perform these adjustments with no load, volume minimum.

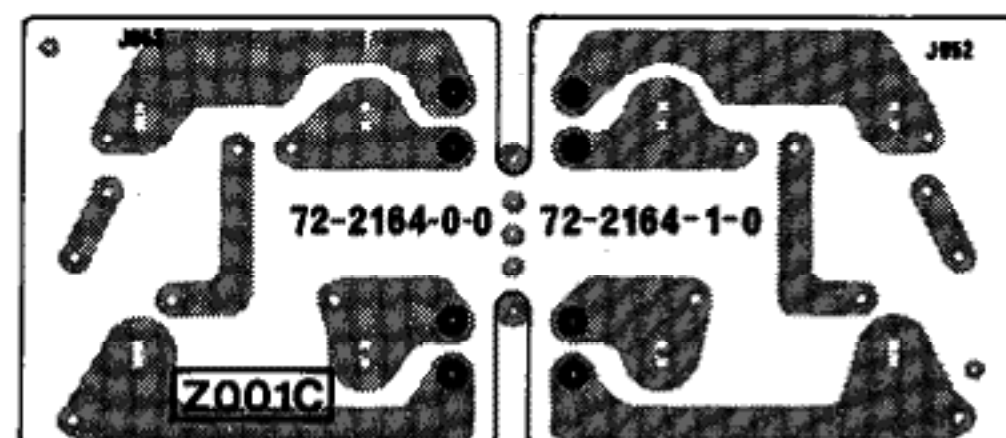


WIRING DIAGRAM

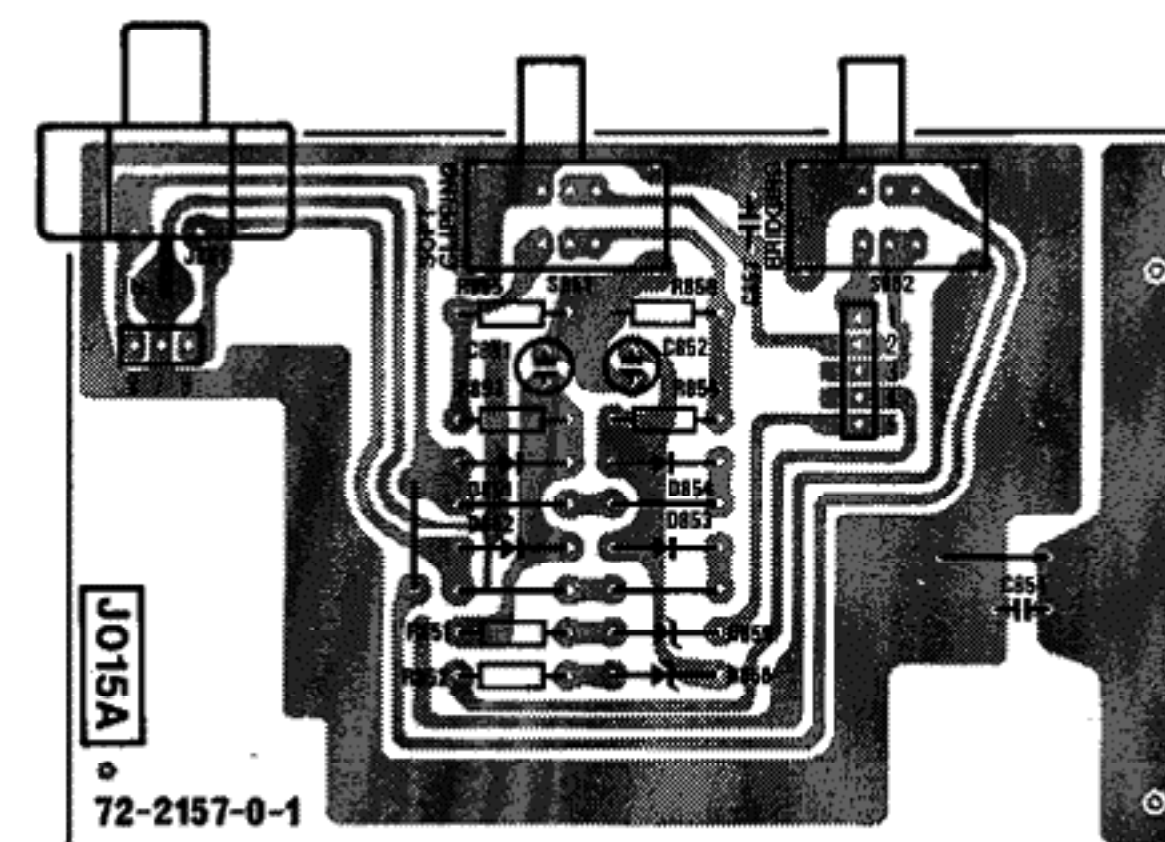


P.C.B. LAYOUT DIAGRAM

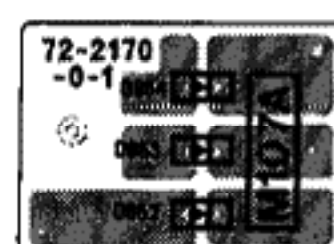
SPEAKER TERMINAL PCB



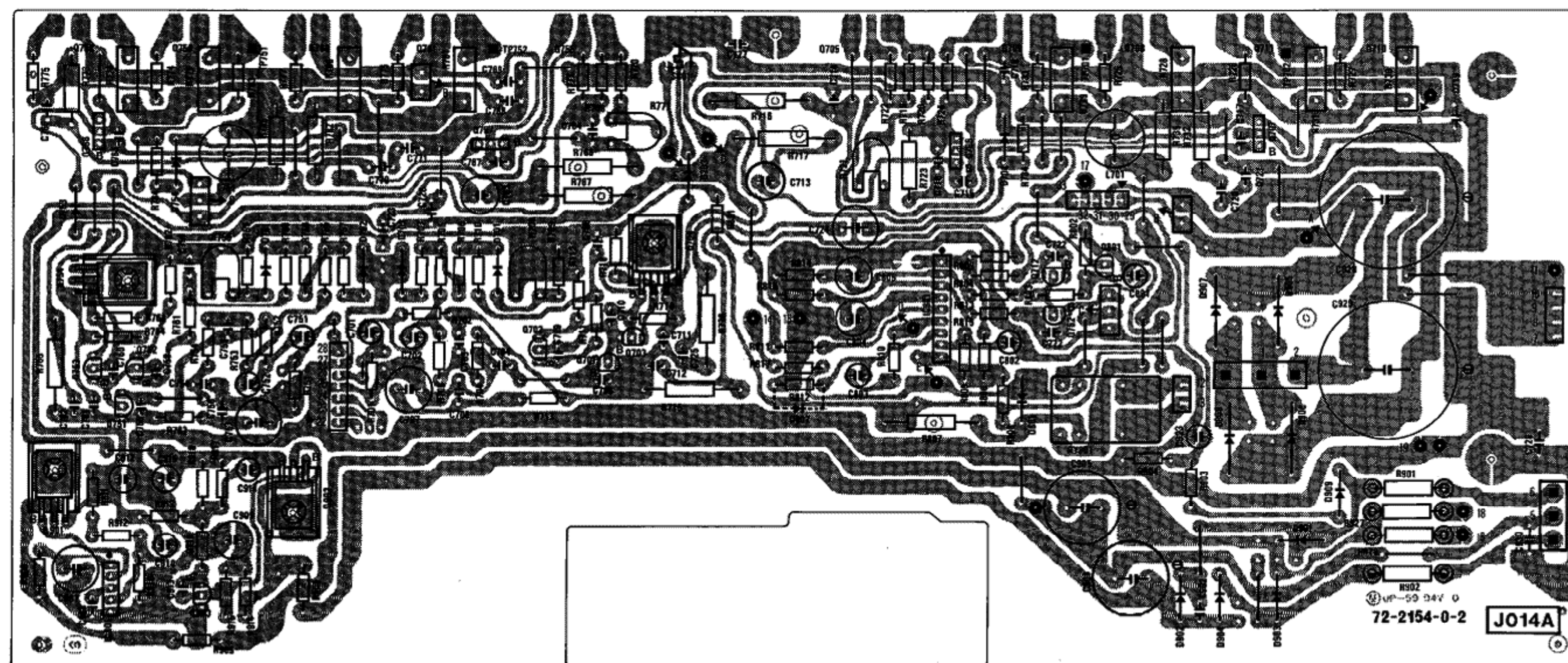
INPUT PCB



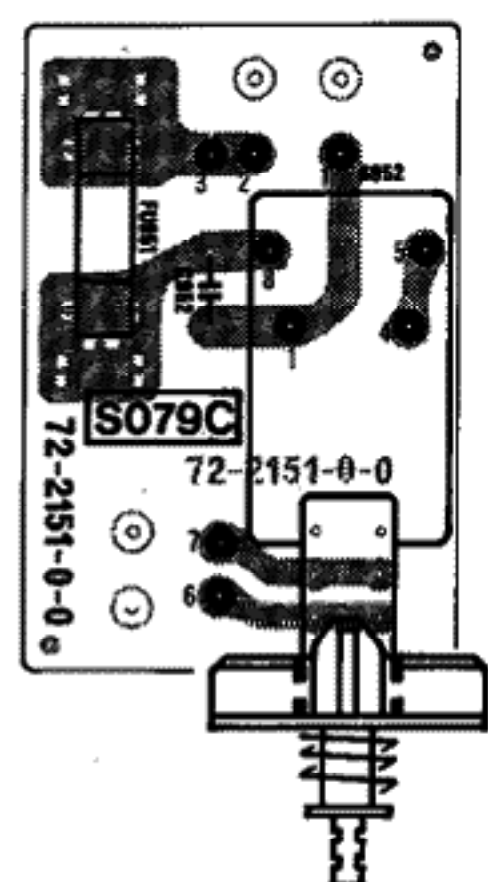
LED DISPLAY PCB



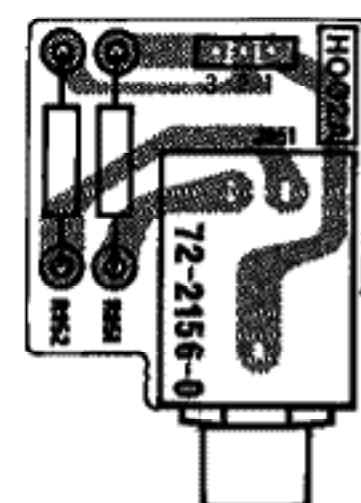
MAIN AMP. PCB



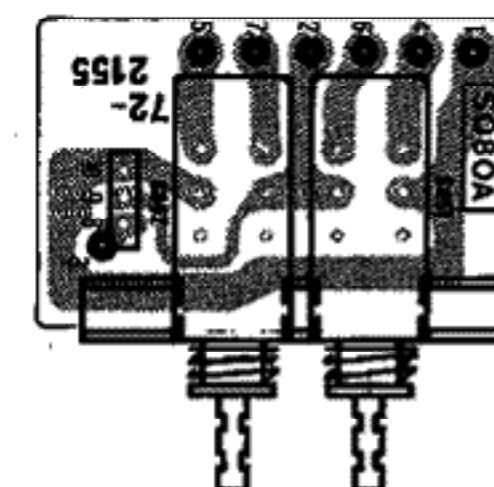
POWER SWITCH PCB



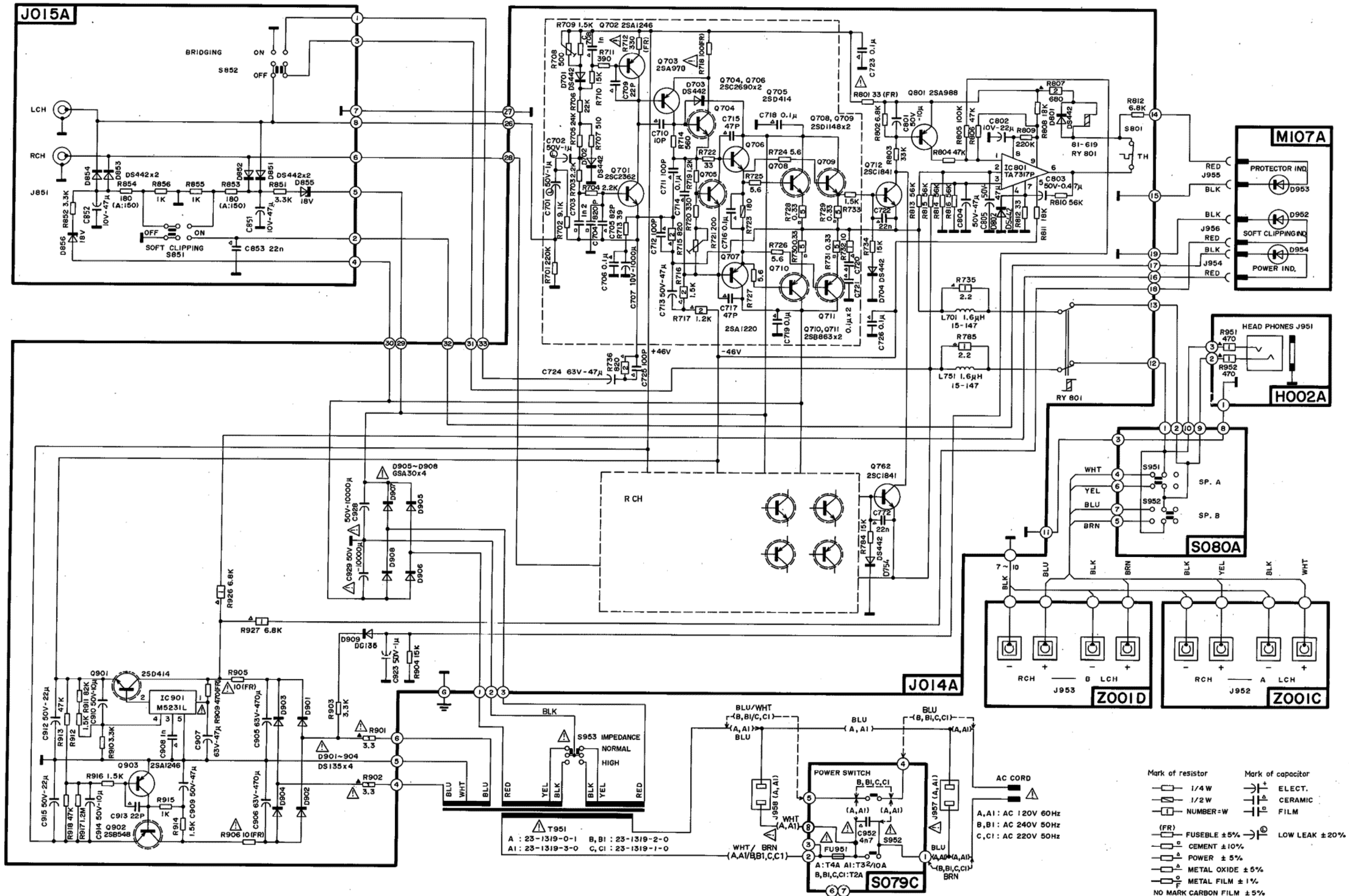
HEADPHONE JACK PCB



SPEAKER SWITCH PCB



SCHEMATIC DIAGRAM NAD 2155 POWER AMPLIFIER

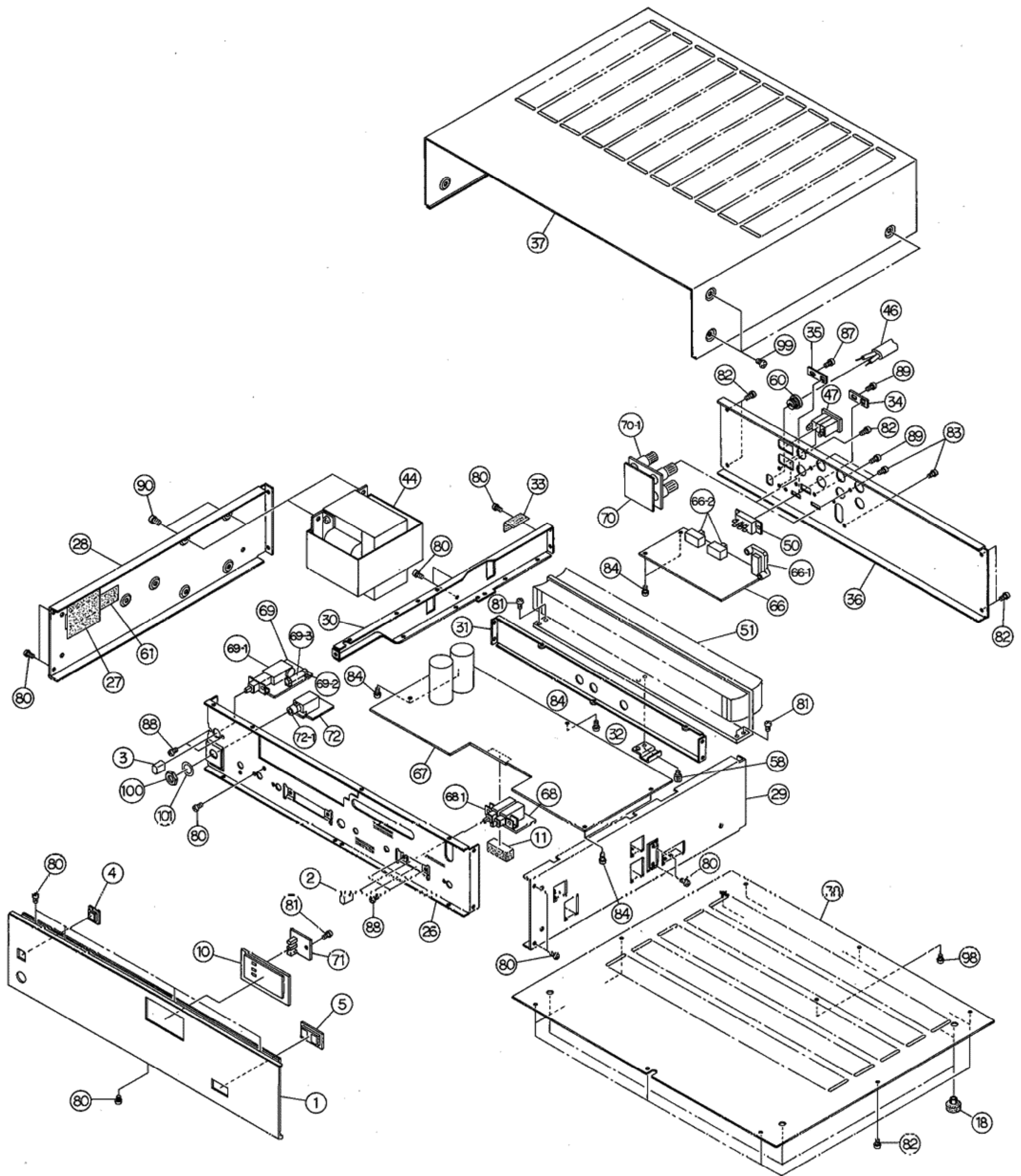


EXPLODED VIEW PARTS LIST

| Ref. No. | Parts No. | Descriptions |
|----------|-------------|---|
| 1 | 63-6276-0-0 | FRONT PANEL |
| 2 | 62-1105-0-0 | PUSH BUTTON - SELECTORS |
| 3 | 62-1105-1-0 | PUSH BUTTON - ON/OFF |
| 4 | 62-3465-0-0 | PUSH BUTTON FRAME - SINGLE HOLE |
| 5 | 62-3466-0-0 | PUSH BUTTON FRAME - TWO HOLES |
| 10 | 62-3470-0-0 | DISPLAY PANEL |
| 11 | 92-2104-0-0 | CUSHION |
| 18 | 92-2102-0-0 | FOOT - SNAP ON TYPE |
| | 92-2103-0-0 | FOOT - PLASTIC RIVET TYPE |
| 26 | 71-2584-0-0 | FRONT SUBCHASSIS |
| 27 | 92-1175-0-0 | INSULATOR (PVC) (B B1 C C1) |
| 28 | 71-2586-0-0 | SIDE CHASSIS (L) |
| 29 | 71-2587-0-0 | SIDE CHASSIS (R) |
| 30 | 71-2588-0-0 | SUBCHASSIS (FRONT TO REAR SUPPORT) |
| 31 | 71-2589-0-0 | SUBCHASSIS (LEFT TO RIGHT SUPPORT) |
| 32 | 71-1891-0-0 | THERMAL SWITCH CLAMP |
| 33 | 92-1225-0-0 | INSULATOR (PVC) (A A1 AC RECEPTACLE) |
| 34 | 92-1223-0-1 | LOCKING PLATE - INPEDANCE SWITCH |
| 35 | 92-1224-0-0 | LOCKING PLATE - BRIDGING SWITCH |
| 36 | 71-2598-0-0 | REAR PANEL (A A1) |
| | 71-2603-0-0 | REAR PANEL (C C1) |
| | 71-2603-1-0 | REAR PANEL (B B1) |
| 37 | 71-3107-0-0 | CABINET |
| 38 | 71-3104-0-0 | BOTTOM COVER |
| 44 | 23-1319-0-1 | POWER TRANSFORMER (A) |
| | 23-1319-1-0 | POWER TRANSFORMER (C C1) |
| | 23-1319-2-0 | POWER TRANSFORMER (B B1) |
| | 23-1319-3-0 | POWER TRANSFORMER (A1) |
| 46 | 85- 258-0-0 | POWER CORD (A) |
| | 85- 235-0-0 | POWER CORD (C C1) |
| | 85- 240-0-0 | POWER CORD (B) |
| | 85- 259-0-0 | POWER CORD (B1) |
| | 85- 260-0-0 | POWER CORD (A1) |
| 47 | 82-2161-0-0 | RECEPTACLE (A A1) |
| 50 | 81- 450-0-0 | SLIDE SWITCH - IMPEDANCE SELECTOR (A B B1 C C1) |
| | 81- 452-0-0 | SLIDE SWITCH - IMPEDANCE SELECTOR (A1) |
| 51 | 74-3104-0-0 | HEAT SINK |
| 58 | 87-3243-0-0 | STUD BOTTOM COVER SUPPORT |
| 60 | 62-3332-0-0 | BUSHING - AC POWER CORD |
| 61 | 63-1843-0-0 | LABEL (CAUTION FOR FUSE) (A A1) |
| 66 | J015A | INPUT PCB |
| 66 - 1 | 82-2160-0-0 | RCA CONNECTORS - SINGLE |
| 66 - 2 | 81- 447-0-0 | SLIDE SWITCH - SOFT CLIPPING & BRIDGING |
| 67 | J014A | MAIN AMP PCB |
| 68 | S080A | SPEAKER SWITCH PCB |
| 68 - 1 | 81-2324-0-0 | FUNCTION SWITCH BANK (4 SWITCHES) |
| 69 | S079C | POWER SWITCH PCB |
| 69 - 1 | 81-2227-0-0 | POWER SWITCH (A A1) |
| | 81-2245-0-0 | POWER SWITCH (B B1 C C1) |
| 69 - 2 | 71-1894-0-0 | FUSE HOLDER (A A1) |

| Ref. No. | Parts No. | Descriptions |
|----------|-------------|--|
| 69 - 3 | 71-1246-0-0 | FUSE HOLDER (B B1 C C1) FUSE (A) - MDX-4 OR MSL-4 FUSE (A1) - MDX-3-2/10 125V FUSE (B B1 C C1) - T2.0A 250V |
| 70 | Z001C/Z001D | SPEAKER TERMINAL PCB |
| 70 - 1 | 82-2164-0-0 | BINDING POST - LOUDSPEAKERS |
| 71 | M107A | LED DISPLAY PCB |
| 72 | H002A | HEADPHONE JACK PCB |
| 72 - 1 | 82-2158-0-0 | HEADPHONE JACK |
| 80 | | TAPPING SCREW (PHILLIP'S HEAD 3 x 6 Cr) |
| 81 | | TAPPING SCREW (PHILLIP'S HEAD 3 x 8 Cr) |
| 82 | | TAPPING SCREW (PHILLIP'S HEAD 3 x 6 BLK) |
| 83 | | TAPPING SCREW (PHILLIP'S HEAD 3 x 8 BLK) |
| 84 | | TAPPING SCREW (WASHER HEAD 3 x 6 Cr) |
| 87 | | MACHINE SCREW S (PHILLIP'S HEAD 3 x 8 BLK) |
| 88 | | MACHINE SCREW (PAN 3 x 6 Cr) |
| 89 | | MACHINE SCREW (PHILLIP'S HEAD 3 x 8 BLK) |
| 90 | | MACHINE SCREW S (PHILLIP'S HEAD 4 x 6 Cr) |
| 98 | | MACHINE SCREW (PHILLIP'S HEAD 3 x 6 Cr) |
| 99 | | CABINET SCREW WITH WASHER (4 x 6 BLK) |
| 100 | | HEAD PHONE JACK NUT (HEXAGON 12-14-2) |
| 101 | | WASHER (PLAIN 12-18-0.5) |

EXPLODED VIEW



ELECTRICAL PARTS LIST

NOTE: This is not a complete electrical parts list.

INPUT P.C.B.; J015A (EXPLODED VIEW REF. NO. 66)

| SYMBOL NO. | PARTS NO. | DESCRIPTIONS |
|------------|-----------|--------------|
| D851, D852 | DS442 | DIODE |
| D853, D854 | " | " |
| D855, D856 | GZA18Y | " |

MAIN AMP & POWER SUPPLY P.C.B.: J014A (EXPLODED VIEW REF. NO. 67)

| SYMBOL NO. | PARTS NO. | DESCRIPTIONS |
|------------------|------------------------|-------------------------------------|
| IC801 | TA7317P | INTEGRATED CIRCUIT |
| IC901 | M5231L | " |
| Q701, Q751 | 2SC2362 | TRANSISTOR |
| Q702, Q752 | 2SA1246 | " |
| Q903 | " | " |
| Q703, Q753 | 2SA970 | " |
| Q704, Q706, Q754 | 2SC2690 | " |
| Q756 | 2SC2690 | " |
| Q707, Q757 | 2SA1220 | " |
| Q712, Q762 | 2SC1841 | " |
| Q801 | 2SA988 | " |
| Q901 | 2SD414 | " |
| Q902 | 2SB548 | " |
| D701 | DS442BT | DIODE |
| D702, D703, D704 | " | " |
| D751, D752, D753 | " | " |
| D754, D801 | " | " |
| D901-D904, D909 | DS135E | " |
| D905-D908 | GSA30C | " |
| L701, L751 | 15-147 | COIL |
| C701, C702 | 50V, 1 μ F, HL | ELECTROLYTIC CAPACITOR, LOW LEAKAGE |
| C751, C752 | " | " |
| C928, C929 | 50V, 10000 μ F | " |
| R708, R758 | 41-783, RVF8P | VARIABLE RESISTOR, 500 Ω |
| R712, R762 | 330 Ω , J, 1/4W | FUSIBLE RESISTOR |
| R715, R765, R736 | 820 Ω , J, 2W | POWER RESISTOR |
| R716, R766 | 1.5K Ω , J, 2W | " |
| R717, R767 | 1.2K Ω , J, 2W | " |
| R718, R768 | 100 Ω , J, 1/4W | FUSIBLE RESISTOR |
| R721, R771 | 41-781, RVF8P | VARIABLE RESISTOR, 200 Ω |
| R728, R729, R730 | 0.33 Ω , K, 5W | CEMENTED WIREWOUND RESISTOR |
| R731, R778, R779 | " | " |
| R780, R781 | " | " |
| R732, R782 | 10 Ω , J, 1W | POWER RESISTOR |
| R735, R785 | 2.2 Ω , J, 1W | " |
| R801 | 33 Ω , J, 1/4W | FUSIBLE RESISTOR |
| R807 | 680 Ω , J, 2W | OXIDE METAL RESISTOR, RSF2B |
| R901, R902 | 3.3 Ω , J, 1W | " , RSF1B |

| SYMBOL NO. | PARTS NO. | DESCRIPTIONS |
|------------------|---------------|------------------|
| R905, R906 | 10Ω, J, 1/4W | FUSIBLE RESISTOR |
| R909 | 470Ω, J, 1/4W | FUSIBLE RESISTOR |
| R926, R927 | 6.8KΩ, J, 1W | POWER RESISTOR |
| RY801 | 81-619 | RELAY |
| Q705, Q755 | 2SD414 | TRANSISTOR |
| Q708, Q709, Q758 | 2SD1148 | POWER TRANSISTOR |
| Q759 | 2SD1148 | " |
| Q710, Q711, Q760 | 2SB863 | " |
| Q761 | 2SB863 | " |
| S801 | 81-7002 | THERMOSTAT |

HEADPHONE P.C.B.: H002A (EXPLODED VIEW REF. NO. 72)

| SYMBOL NO. | PARTS NO. | DESCRIPTIONS |
|------------|-------------|-----------------------------|
| R951, R952 | 470 ohm, 1W | OXIDE METAL RESISTOR, RSF1B |

POWER SWITCH P.C.B.: S079C (EXPLODED VIEW REF. NO. 69)

| SYMBOL NO. | PARTS NO. | DESCRIPTIONS |
|------------|-------------|----------------------------------|
| C952 | DE7100FZ | CERAMIC CAPACITOR |
| FU951 | MDX-4/MSL-4 | FUSE, 125V, 4A (A VERSION) |
| | MDX-3.2/10 | FUSE, 125V, 3.2/10A (A1 VERSION) |
| | T, 2A | FUSE, 250V, 2A (B, C VERSION) |

LED DISPLAY P.C.B.: M107A (EXPLODED VIEW REF. NO. 71)

| SYMBOL NO. | PARTS NO. | DESCRIPTIONS |
|------------|-----------|-------------------|
| D952 | SG240D | L.E.D., SOFT CLIP |
| D953 | SR540D | L.E.D., PROTECTOR |
| D954 | SR540D | L.E.D., POWER |

SERVICE MANUAL

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2155
STEREO POWER AMPLIFIER

NAD ELECTRONICS
BOSTON LONDON TOKYO

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