NAD SERVICE MANUAL

2155

STEREO POWER AMPLIFIER

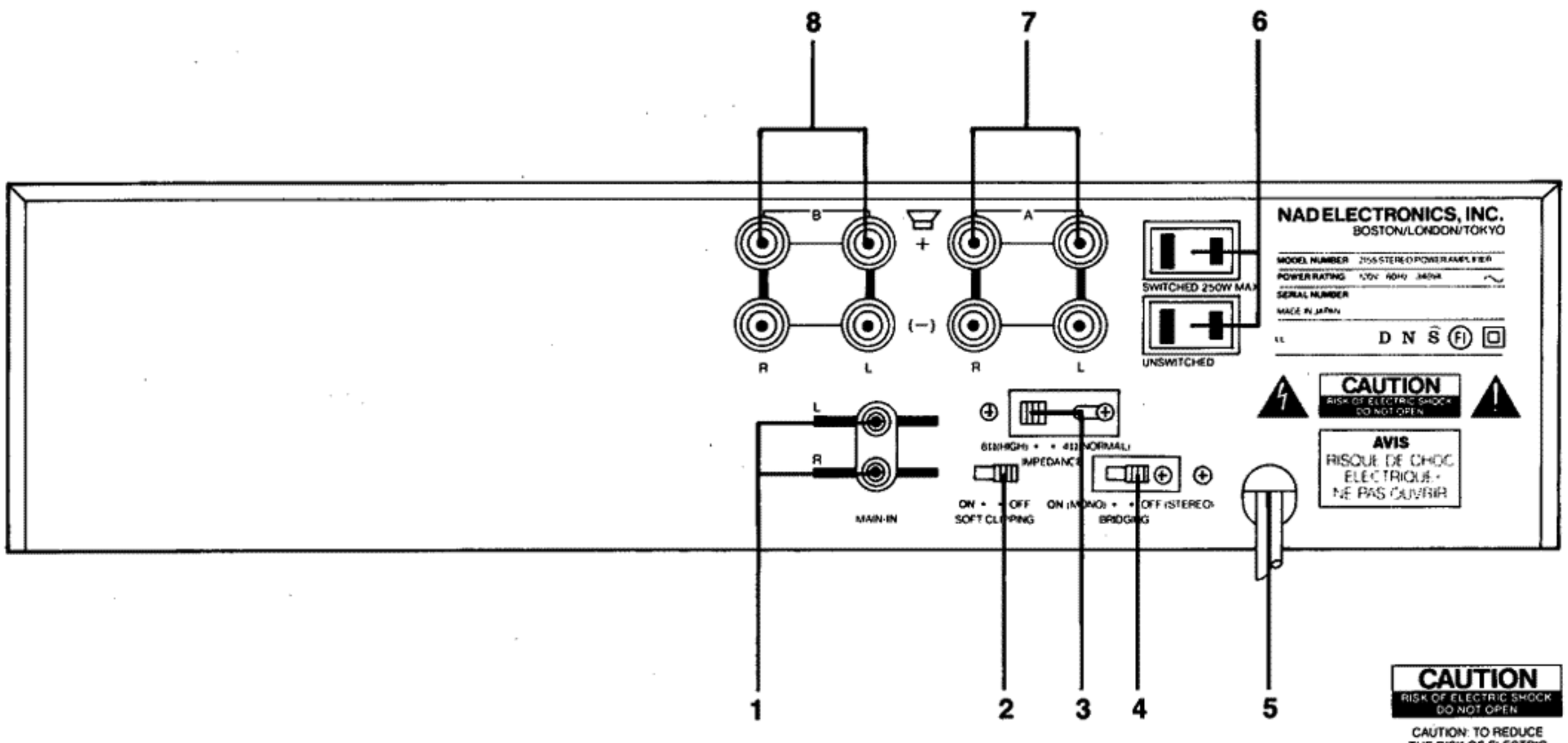
NAD 2155 SERVICE MANUAL

NOTE: This manual covers all versions.
A: U.S.A.
A1: Canada
B: U.K.
B1: Australia
C: Europe and others
C1: W-Germany

TABLE OF CONTENTS

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.

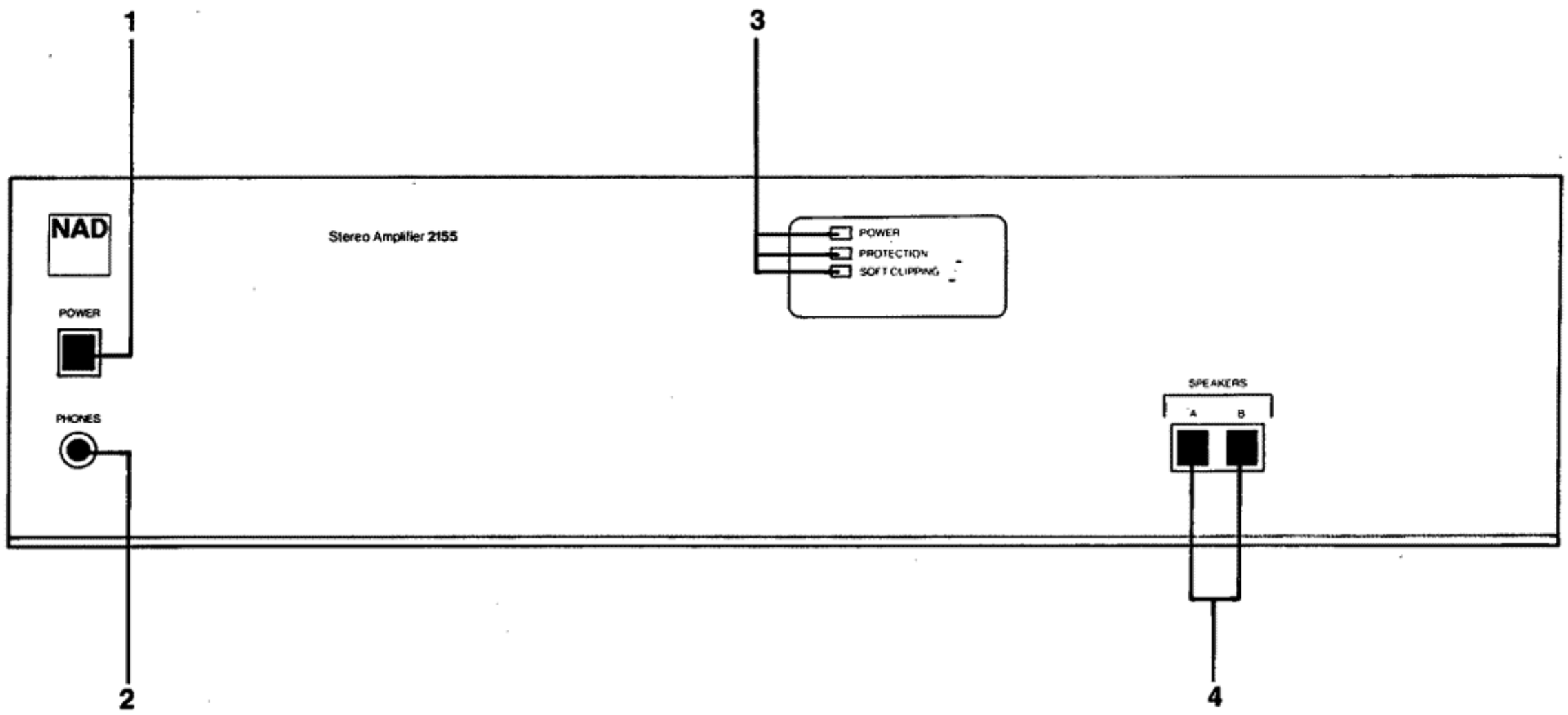


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

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	75 W
	4 ohms:	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	110 W
	4 ohms:	100 W	130 W
	2 ohms:	130 W	150 W
Slew factor.		> 50	
Slew rate.		20 V/μsec.	
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.)

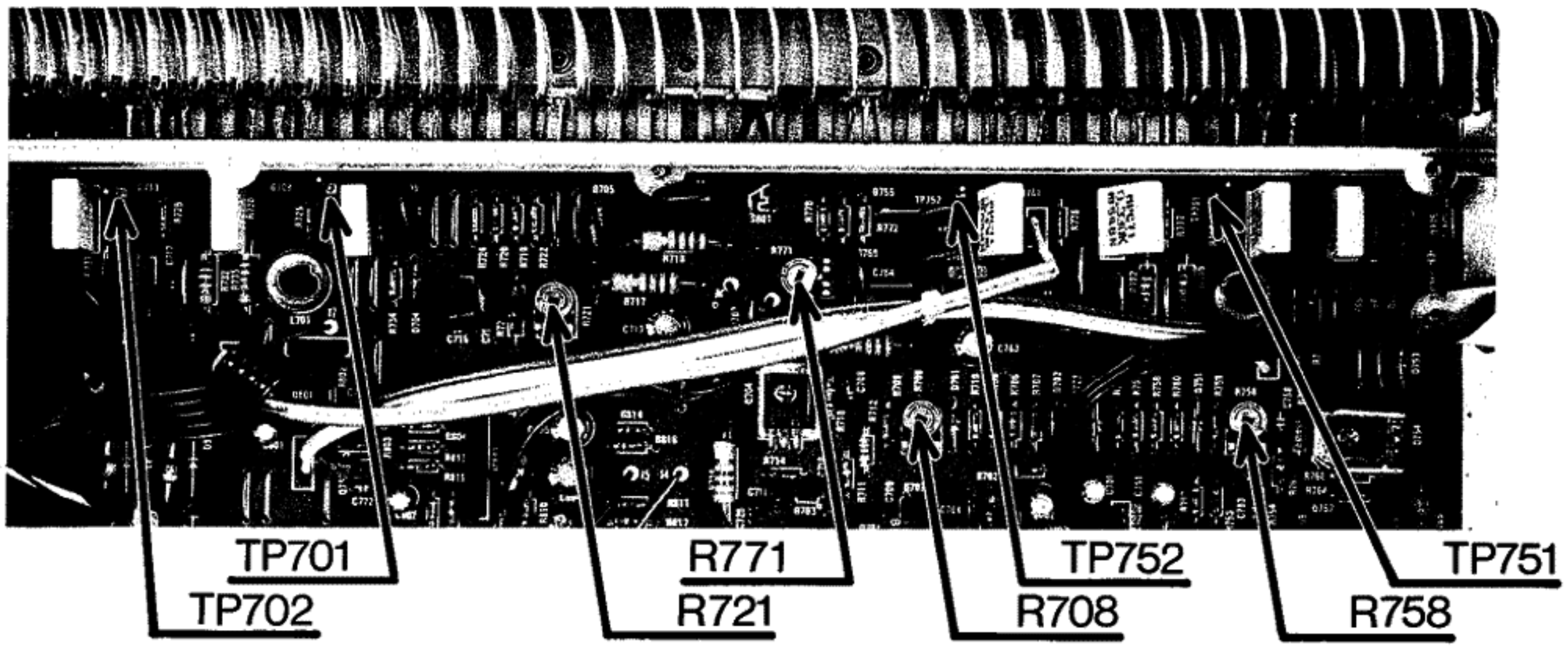
2 Adjust R 721, left chan. (R 771, right chan.) so that meter reading is 20 - 25 mVDC.

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

B OFFSET (CENTERING) VOLTAGE:

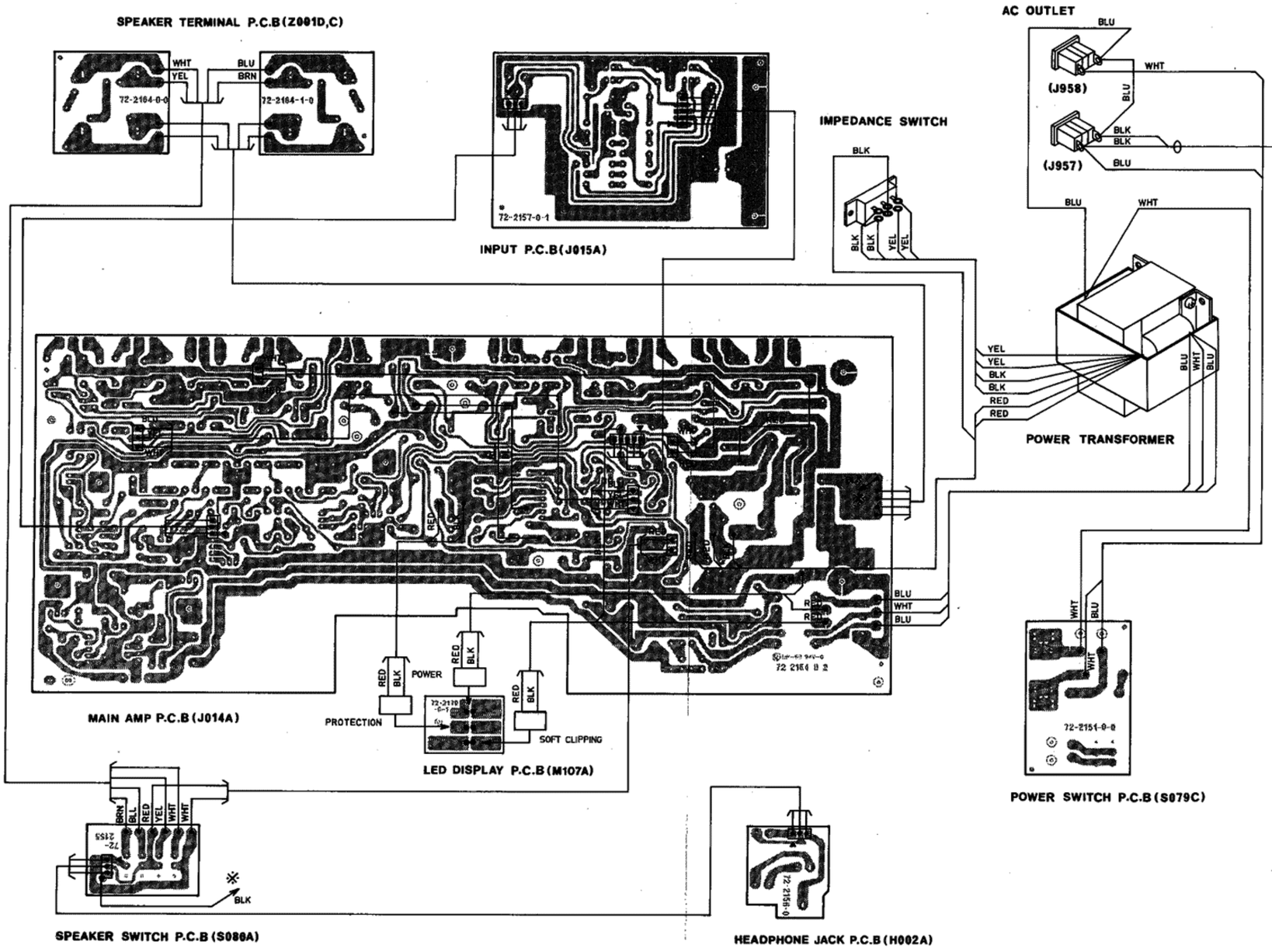
Adjust R 708. left (R 758, right) so that voltage at spkr. terminals is 0 ± 50 mVDC.

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



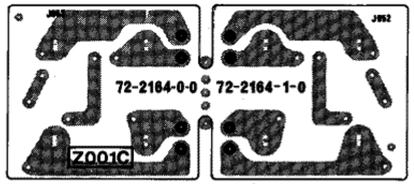
MEMO

WIRING DIAGRAM

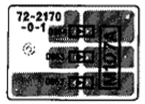


P.C.B. LAYOUT DIAGRAM

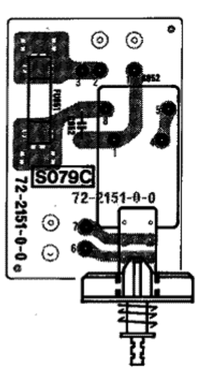
SPEAKER TERMINAL PCB



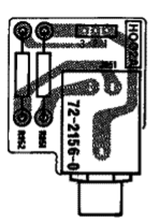
LED DISPLAY PCB



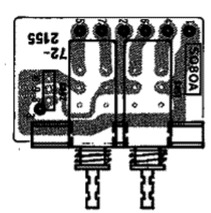
POWER SWITCH PCB



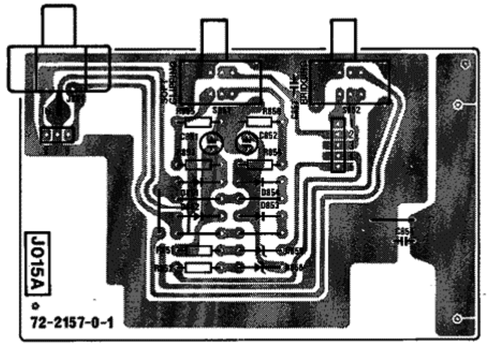
HEADPHONE JACK PCB



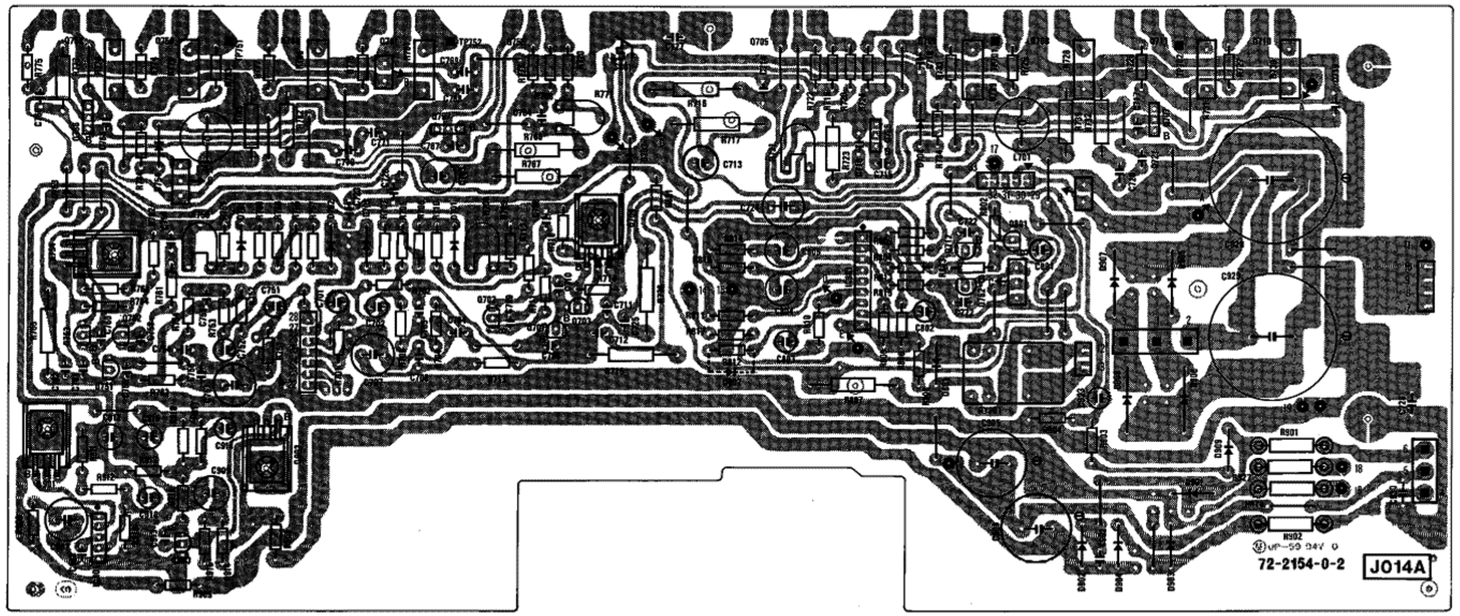
SPEAKER SWITCH PCB



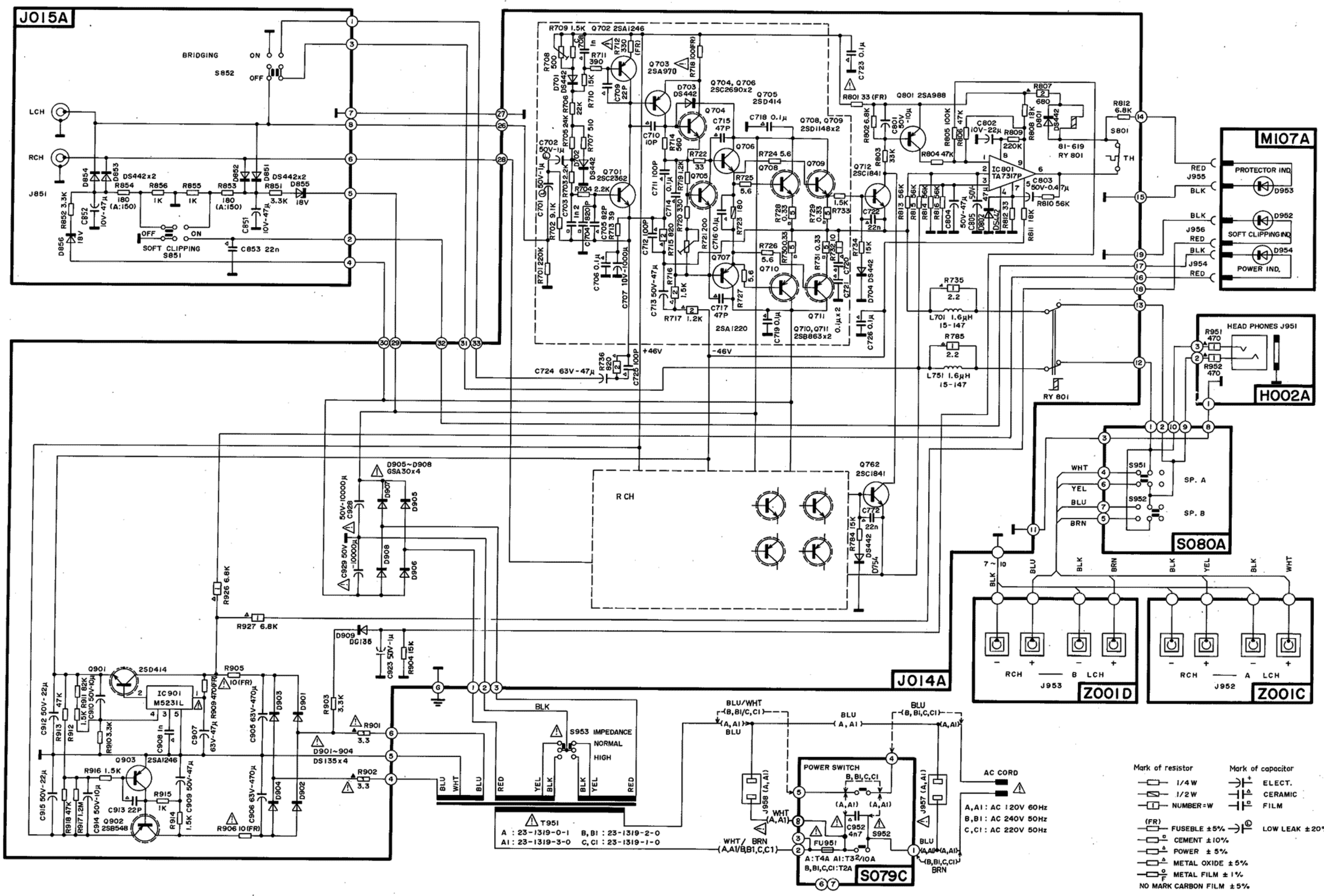
INPUT PCB



MAIN AMP. PCB



SCHEMATIC DIAGRAM
NAD 2155 POWER AMPLIFIER

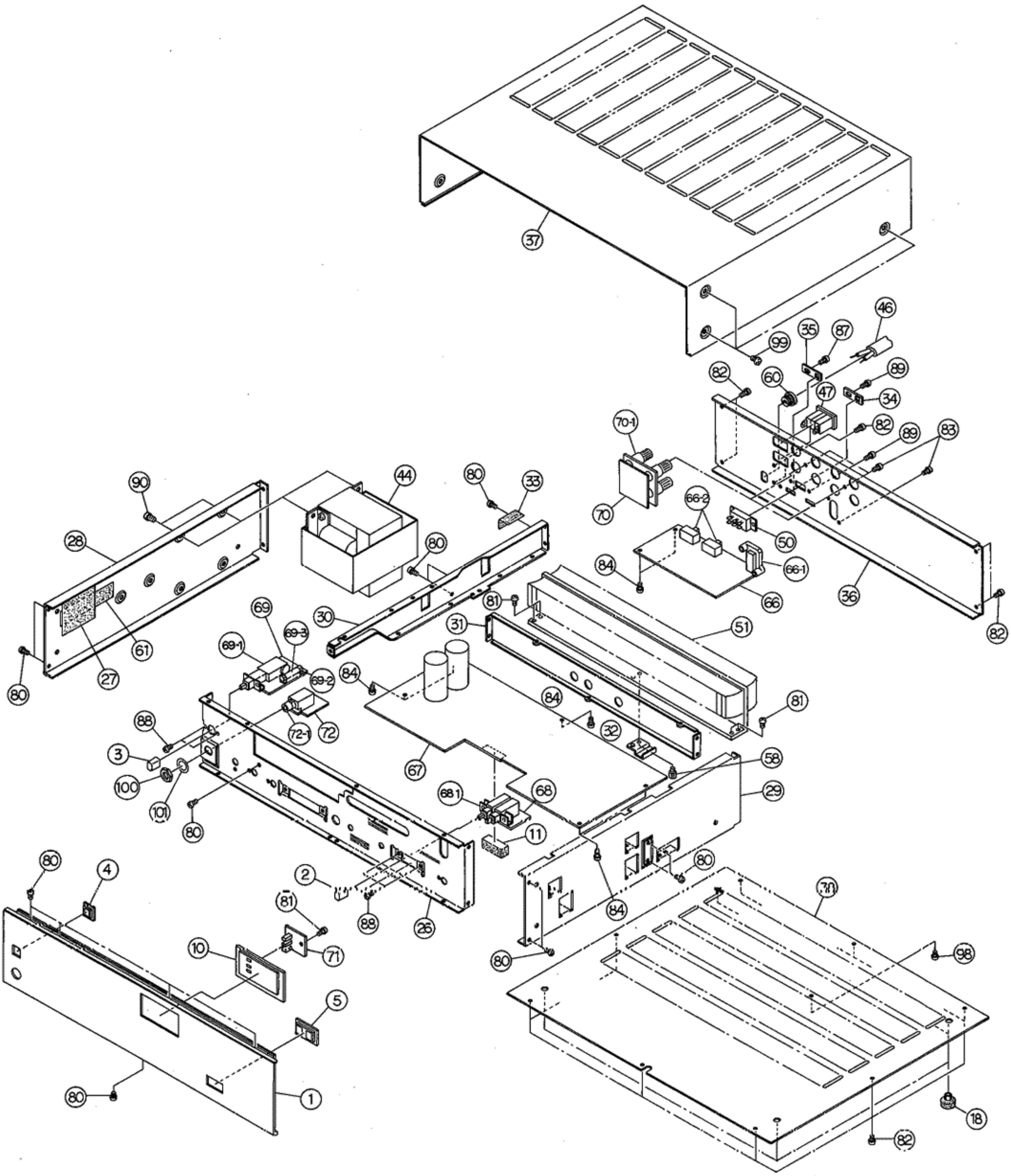


EXPLODED VIEW PARTS LIST

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
	71-1246-0-0	FUSE HOLDER (B B1 C C1)
69 - 3		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



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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, 1μF, HL	ELECTROLYTIC CAPACITOR, LOW LEAKAGE
C751, C752	"	" , "
C928, C929	50V, 10000μF	" ,
R708, R758	41-783, RVF8P	VARIABLE RESISTOR, 500Ω
R712, R762	330Ω, J, 1/4W	FUSIBLE RESISTOR
R715, R765, R736	820Ω, J, 2W	POWER RESISTOR
R716, R766	1.5KΩ, J, 2W	"
R717, R767	1.2KΩ, J, 2W	"
R718, R768	100Ω, J, 1/4W	FUSIBLE RESISTOR
R721, R771	41-781, RVF8P	VARIABLE RESISTOR, 200Ω
R728, R729, R730	0.33Ω, K, 5W	CEMENTED WIREWOUND RESISTOR
R731, R778, R779	"	"
R780, R781	"	"
R732, R782	10Ω, J, 1W	POWER RESISTOR
R735, R785	2.2Ω, J, 1W	"
R801	33Ω, J, 1/4W	FUSIBLE RESISTOR
R807	680Ω, J, 2W	OXIDE METAL RESISTOR , RSF2B
R901, R902	3.3Ω, 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

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NAD ELECTRONICS

BOSTON LONDON TOKYO