

# NAD SERVICE MANUAL

## 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

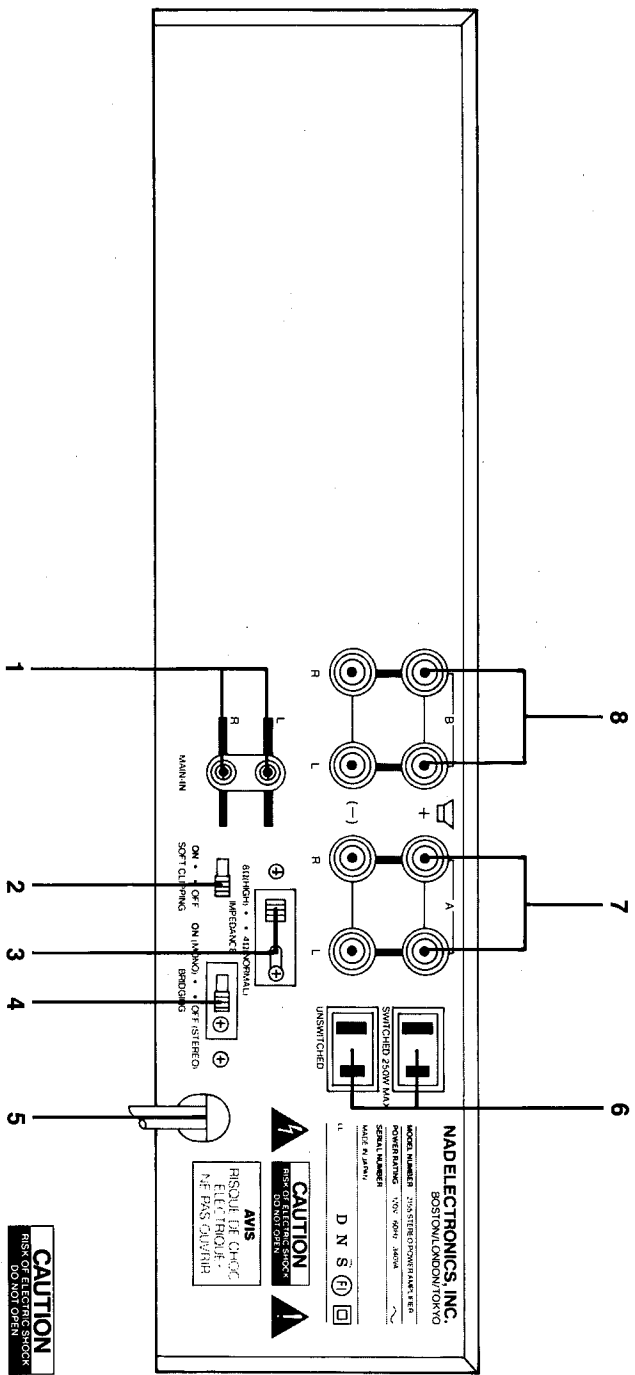
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*1-87-10000-00000*  
*2019-0000-00000-00000*

**2155**  
 STEREO POWER AMPLIFIER

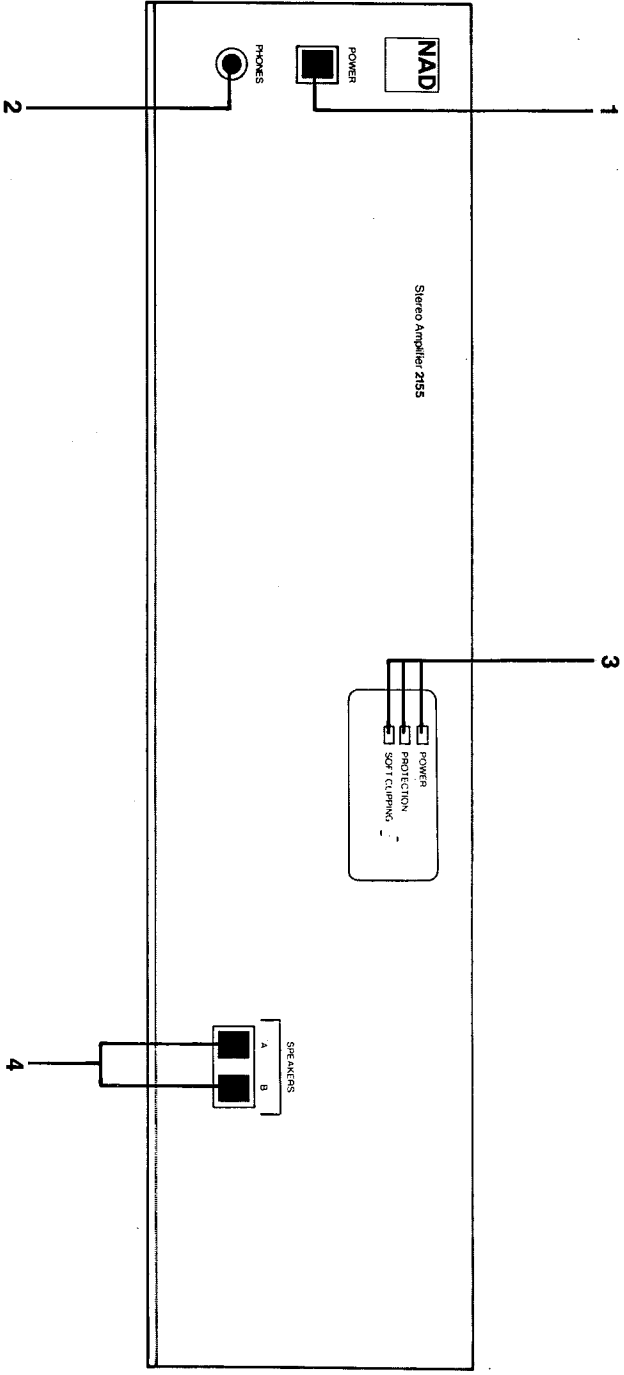
**REAR PANEL**

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.
<b>CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS</b> (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	8 ohms: 75 W 4 ohms: 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	> 50
Slew rate.	20 V/μsec.	20 V/μsec.
Damping factor (ref. 8 ohms, at 50 Hz).	> 50	> 50
Input impedance.	22 k ohms.	22 k ohms.
Input sensitivity for 1 W/55 W out.	0.13 V/0.95 V	0.13 V/0.95 V
Power amp. gain.	26.8 dB.	26.8 dB.
THD (Total Harmonic Distortion, 20 Hz - 20 kHz, from 250 mW to rated output).	< 0.03 %	< 0.03 %
SMPT E.I.M. (Intermodulation Distortion 60 Hz : 7 kHz, 4 : 1, from 250 mW to rated output).	< 0.03 %	< 0.03 %
IHF I.M. (CCIR IM Distortion, 19 to 20 kHz at rated output).	< 0.03 %	< 0.03 %

Bridged (Monophonic) Mode

<b>CONTINUOUS AVERAGE POWER OUTPUT INTO 8 OHMS</b> (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 V.A.C. 340W.

# ALIGNMENTS

## A IDLE (QUIESCENT) CURRENT

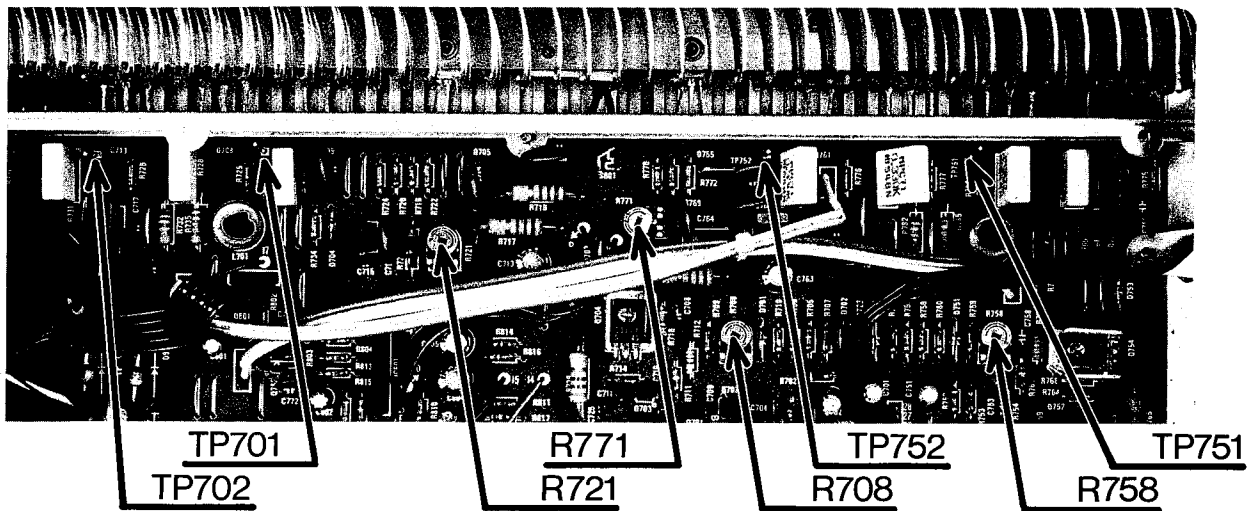
- 1 Connect mV meter (DVM) from TP 701 to TP 702, left chan. (from TP 751 to TP 752, right chan.)
- 2 Adjust R 721, left chan. (R 771, right chan.) so that meter reading is 20 - 25 mVDC.

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

## B OFFSET (CENTERING) VOLTAGE:

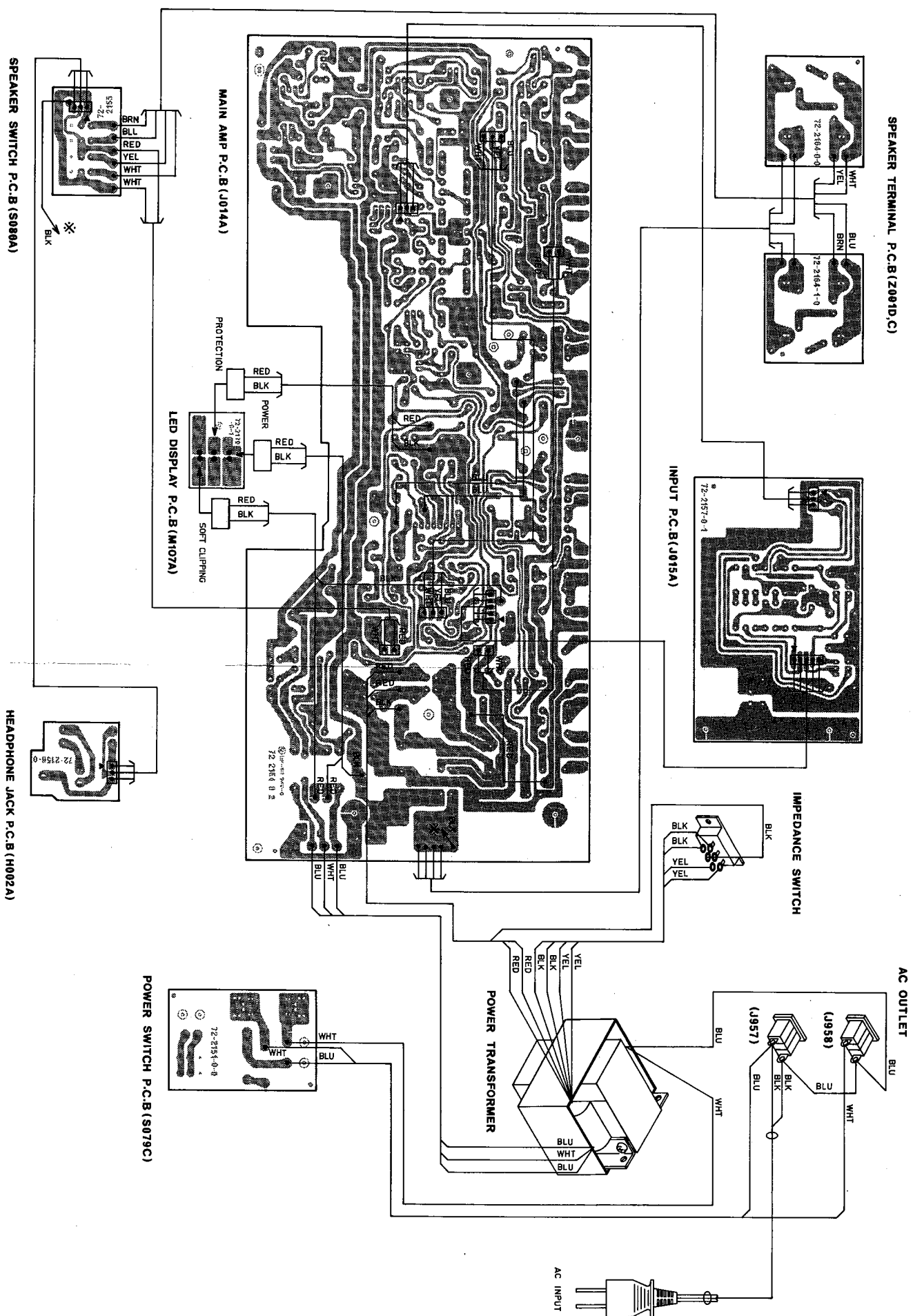
Adjust R 708, left (R 758, right) so that voltage at spkr. terminals is  $0 \pm 50$  mVDC.

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



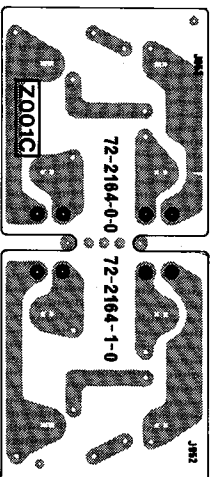
MEMO

# WIRING DIAGRAM



P.C.B. LAYOUT DIAGRAM

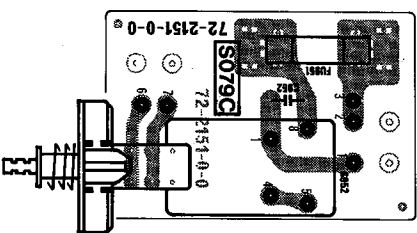
SPEAKER TERMINAL PCB



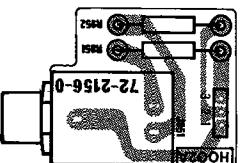
LED DISPLAY PCB



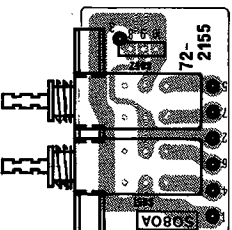
POWER SWITCH PCB



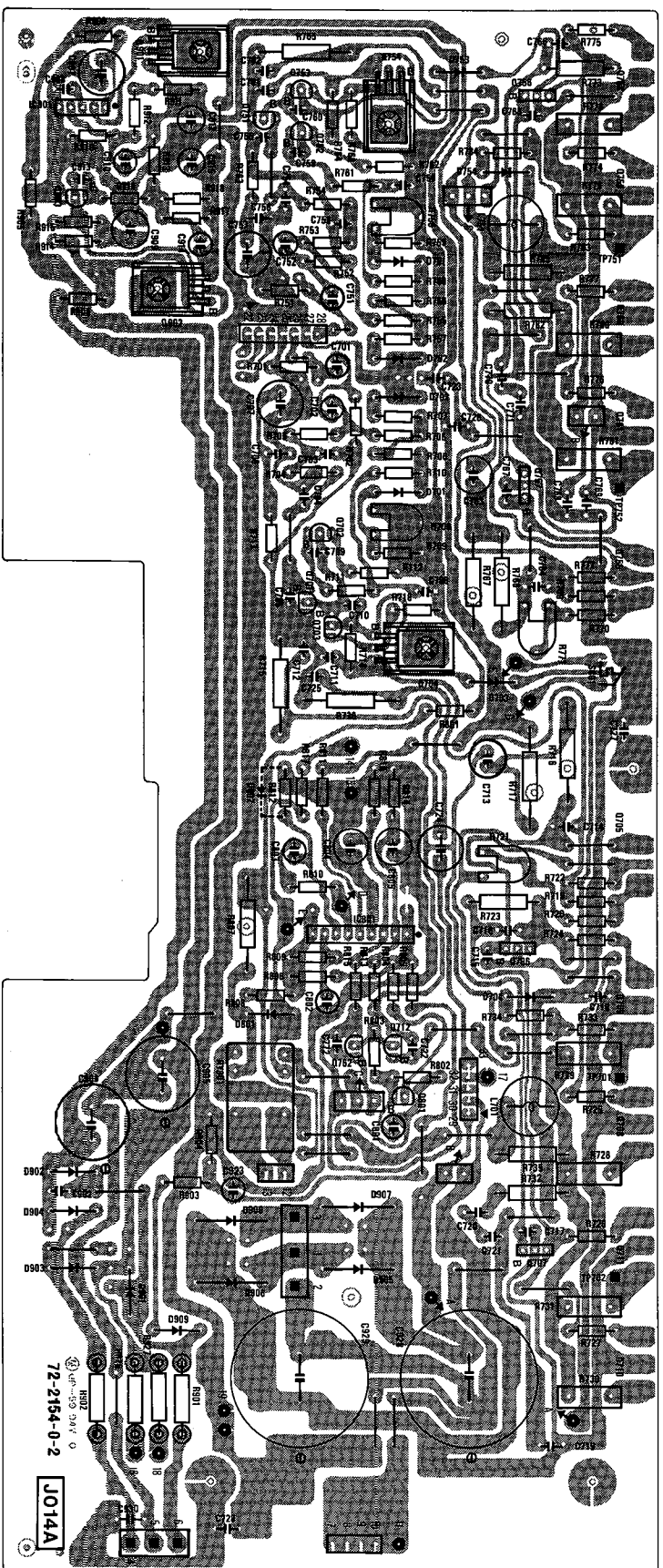
HEADPHONE JACK PCB



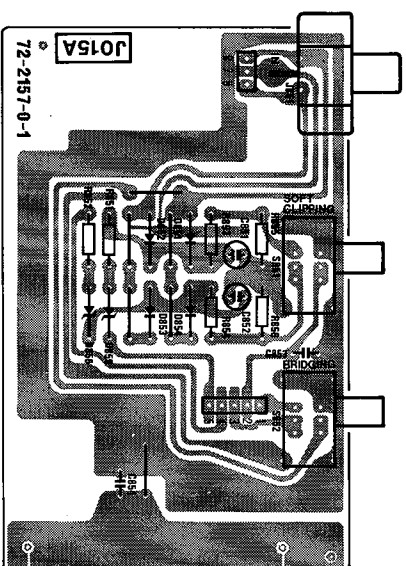
SPEAKER SWITCH PCB



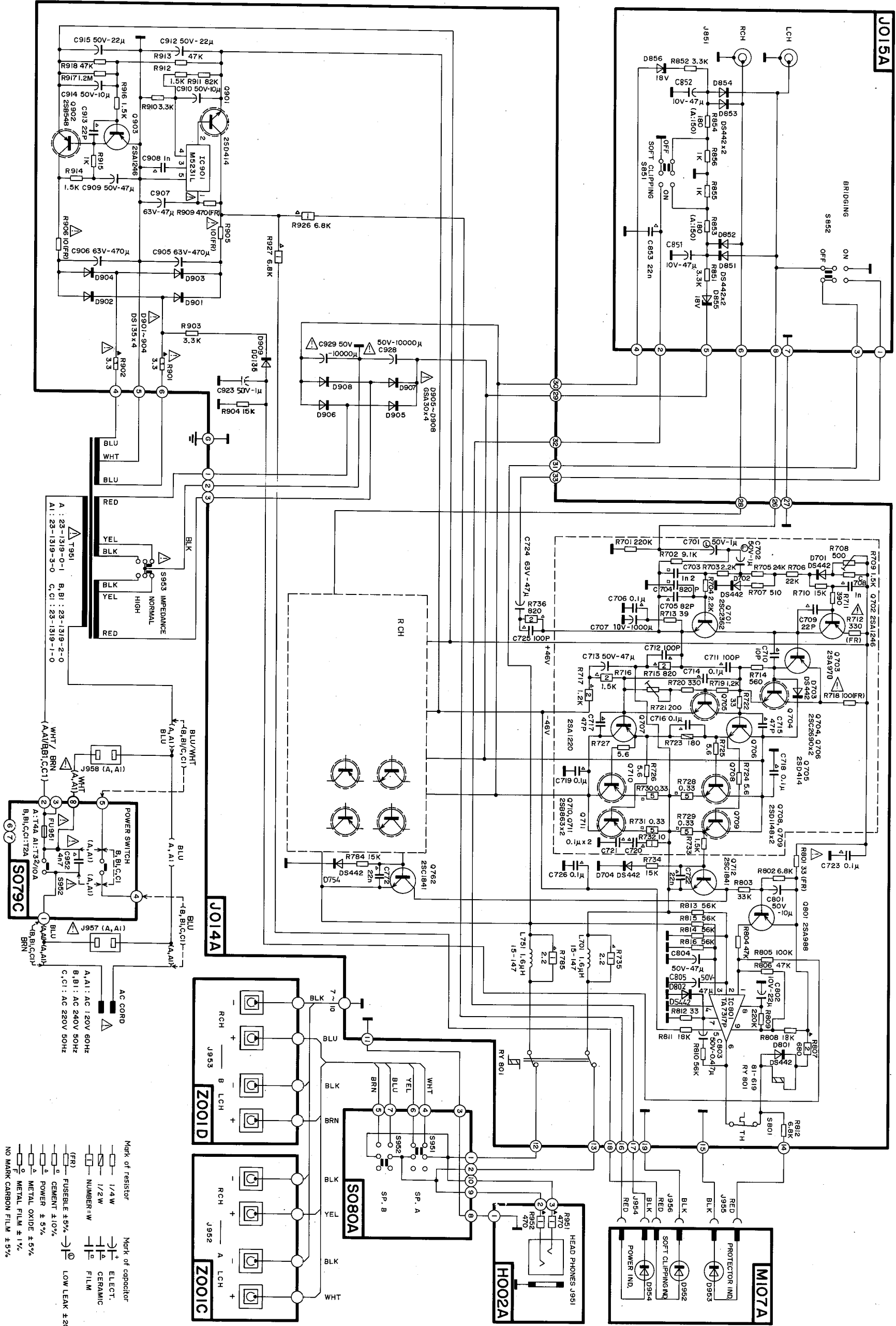
MAIN AMP. PCB



INPUT PCB



# SCHEMATIC DIAGRAM NAD 2155 POWER AMPLIFIER



Mark of resistor

Mark of capacitor

(FR) FUSEBLE ±5% — LOW LEAK ±20%

1/4W ELECT. FILM

1/2W CERAMIC

NUMBER-W

CEMENT ±10%

POWER ±5%

METAL OXIDE ±5%

METAL FILM ±1%

NO MARK CARBON FILM ±5%

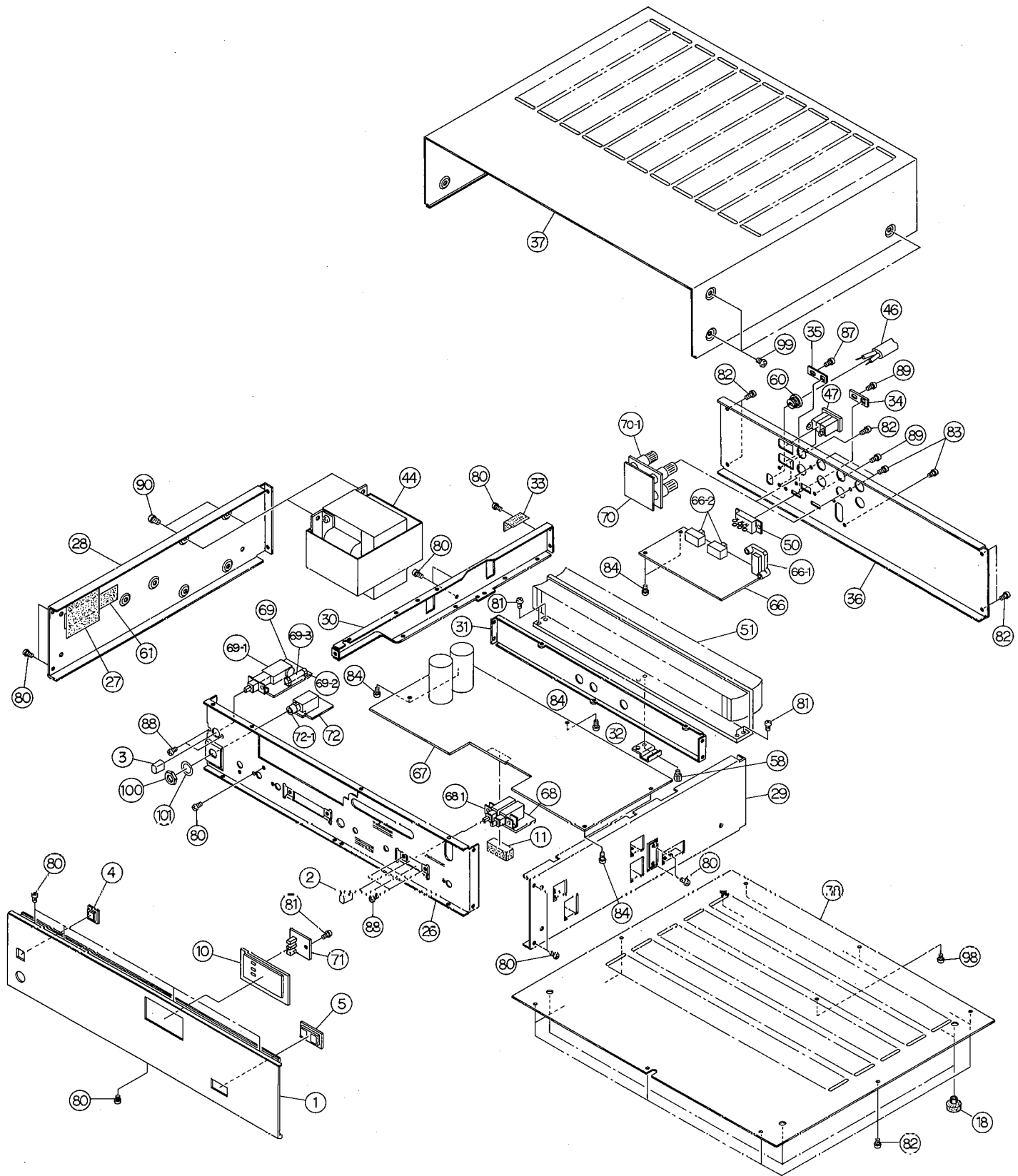
# EXPLODED VIEW PARTS LIST

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	71-1891-0-3	THERMAL SWITCH CLAMP
33	92-1225-0-0	INSULATOR (PVC) (A A1 AC RECEPTACLE)
34	92-1223-0-1	LOCKING PLATE - IMPEDANCE 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 (PHILLIPS HEAD 3 x 6 C1)
81		TAPPING SCREW (PHILLIPS HEAD 3 x 8 C1)
82		TAPPING SCREW (PHILLIPS HEAD 3 x 6 BLK)
83		TAPPING SCREW (PHILLIPS HEAD 3 x 8 BLK)
84		TAPPING SCREW (WASHER HEAD 3 x 6 C1)
87		MACHINE SCREW S (PHILLIPS HEAD 3 x 8 BLK)
88		MACHINE SCREW (PAN 3 x 6 C1)
89		MACHINE SCREW (PHILLIPS HEAD 3 x 8 BLK)
90		MACHINE SCREW S (PHILLIPS HEAD 4 x 6 C1)
98		MACHINE SCREW (PHILLIPS HEAD 3 x 6 C1)
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 $\mu$ F, HL	ELECTROLYTIC CAPACITOR, LOW LEAKAGE
C751, C752	"	"
C928, C929	50V, 10000 $\mu$ F	"
R708, R758	41-783, RVF8P	VARIABLE RESISTOR, 500 $\Omega$
R712, R762	330 $\Omega$ , J, 1/4W	FUSIBLE RESISTOR
R715, R765, R736	820 $\Omega$ , J, 2W	POWER RESISTOR
R716, R766	1.5K $\Omega$ , J, 2W	"
R717, R767	1.2K $\Omega$ , J, 2W	"
R718, R768	100 $\Omega$ , J, 1/4W	FUSIBLE RESISTOR
R721, R771	41-781, RVF8P	VARIABLE RESISTOR, 200 $\Omega$
R728, R729, R730	0.33 $\Omega$ , K, 5W	CEMENTED WIREWOUND RESISTOR
R731, R778, R779	"	"
R780, R781	"	"
R732, R782	10 $\Omega$ , J, 1W	POWER RESISTOR
R735, R785	2.2 $\Omega$ , J, 1W	"
R801	33 $\Omega$ , J, 1/4W	FUSIBLE RESISTOR
R807	680 $\Omega$ , J, 2W	OXIDE METAL RESISTOR, RSF2B
R901, R902	3.3 $\Omega$ , 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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**2155**  
STEREO POWER AMPLIFIER

**NAD ELECTRONICS**  
BOSTON/LONDON/TOKYO