SERVICE MANUAL
NAD MODEL 1020
STEREO PRE-AMPLIFIER

CONTENTS

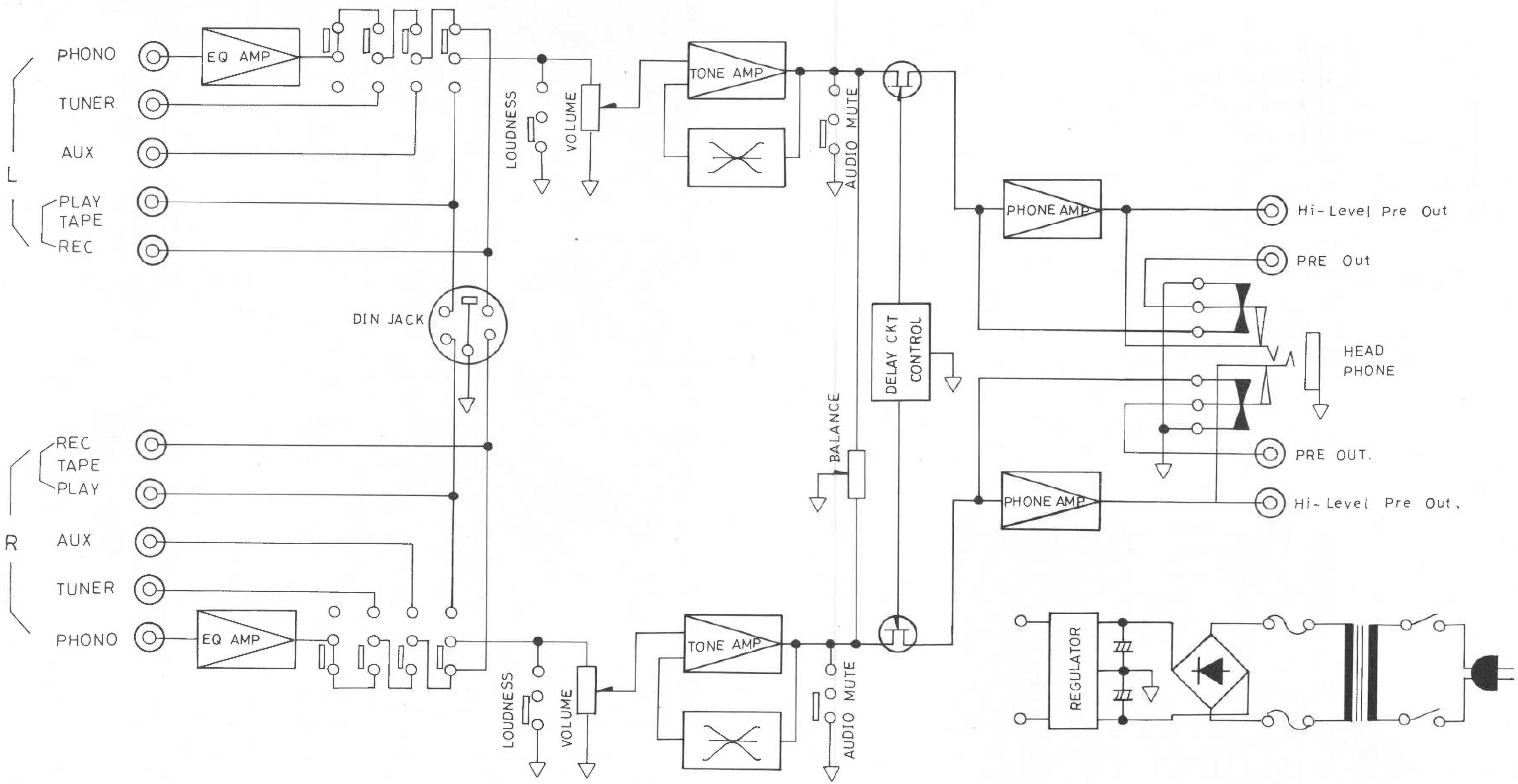
SPECIFICATIONS	2
BLOCK DIAGRAM	3
INSIDE VIEW	4
WIRING DIAGRAM	5
CIRCUIT DIAGRAM	6
PCB PARTS LOCATION	7
ASSEMBLY DIAGRAM	8
ASSEMBLY PARTS	9
PARTS LIST	11
PACKING DIAGRAM	15

SPECIFICATIONS

1020 Measurements identified by an asterisk are taken in accordance with the new IHF A–202 amplifier measurement standard.

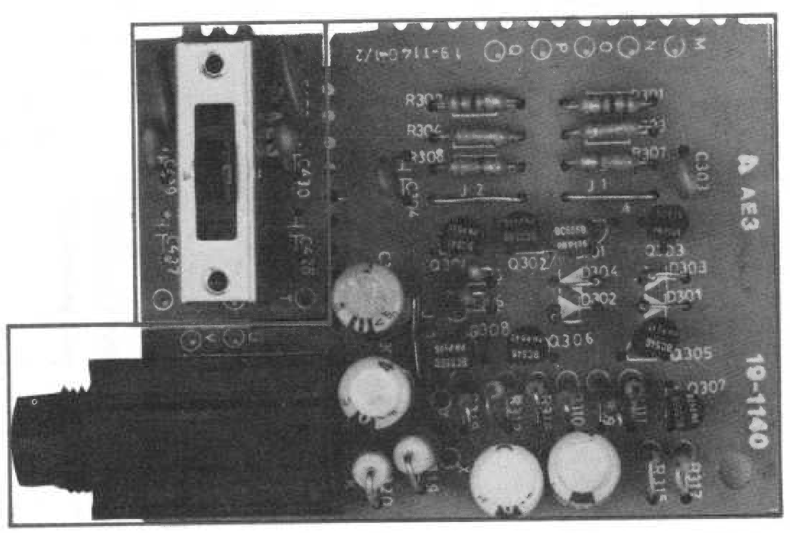
Phono Amplifier	
Input Impedance Resistance	47K ohm
Capacitance	100/200/320 (pF)
Input Sensitivity (1K Hz) for 1V Out	2.5 mV
Input Overload at 20 Hz/1K Hz/20K Hz	20 mV/200 mV/2 V
THD (20–20K Hz) and IMD at +30 dB Input Level	0.02 %
RIAA Response Accuracy	±0.3 dB
Signal to Noise Ratio A-Weighted with	
(A) Phono Cartridge Connected Ref 10 mV/Ref 5 mV	80/75 (dB)
(B) Short Circuit Input Ref 10 mV	84 dB
High Level Input	
Input Impedance Resistance/Capacitance	20K ohm/220 pF
Input Sensitivity for 1V Out	155 mV
Signal to Noise Ratio A-Weighted Ref 1V Out	110 dB
THD (20–20K Hz) and IMD for 1V Out	0.02 %
Maximum Input Signal	Infinite
Infrasonic Filter Turn over Frequency (–3 dB)	20 Hz
Slope	12 dB/Octave
Frequency Response 100–20K	± 0.5 dB
Hi-Level Pre Minimum Output (600 ohm Load)	6 V
Controls	
Bass Control Range at 50 Hz	± 10 dB
Treble Control Range at 10K Hz	± 7 dB
Power Consumption	5 W
Weight	3.75 Kg
Dimensions (Width x Height x Depth)	420 x 96 x 240 (mm)

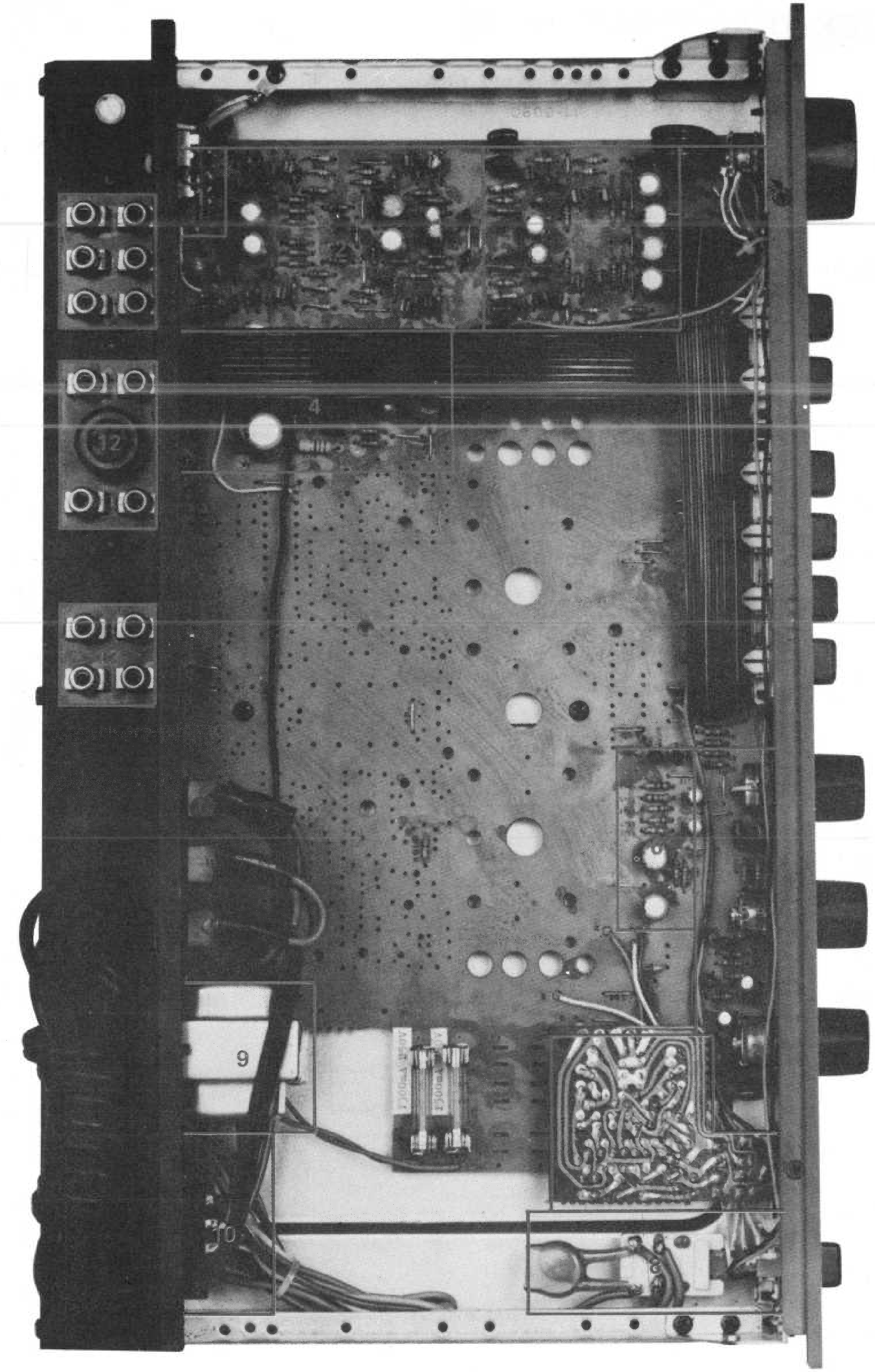
BLOCK DIAGRAM



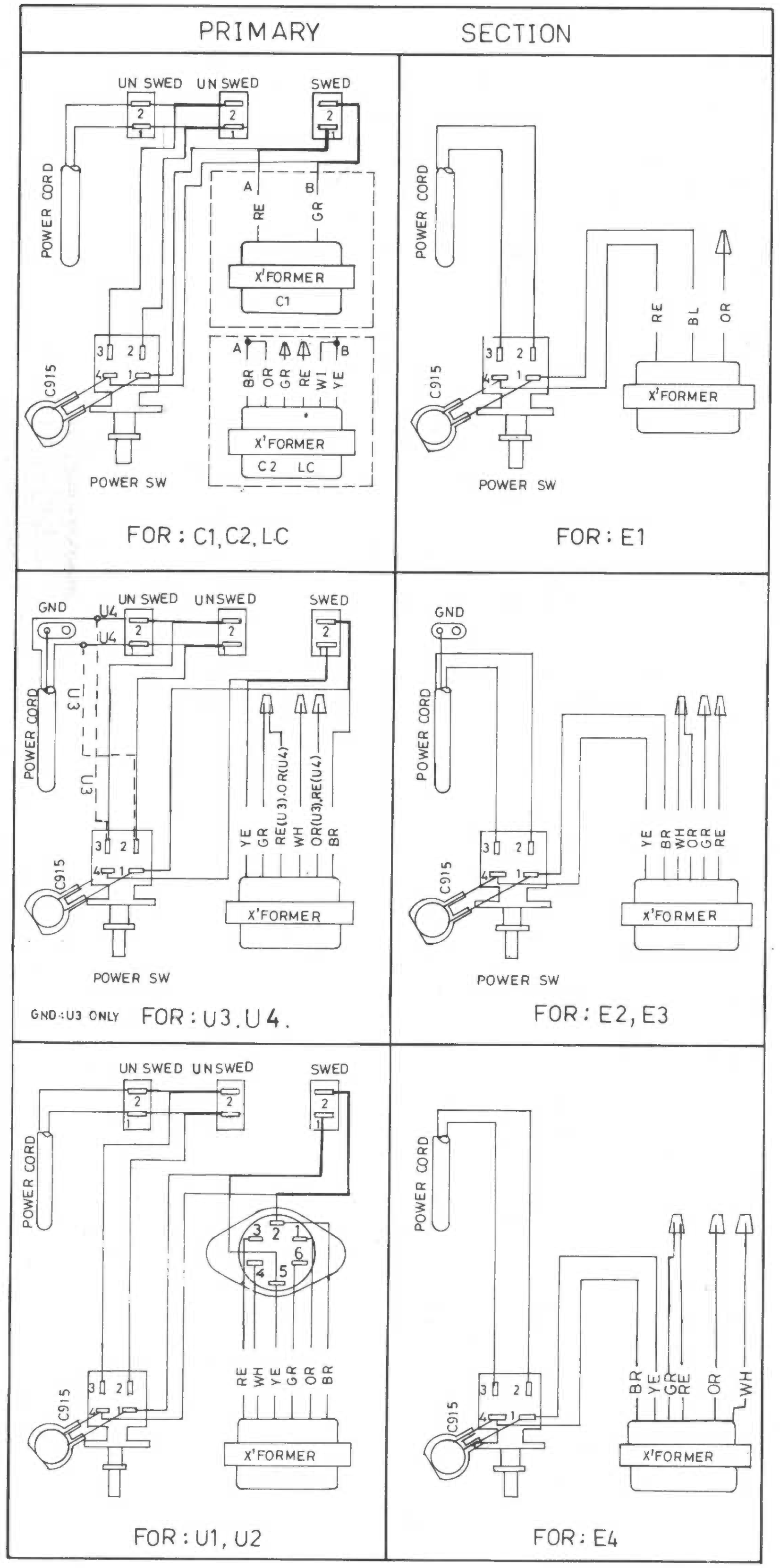
INSIDE VIEW

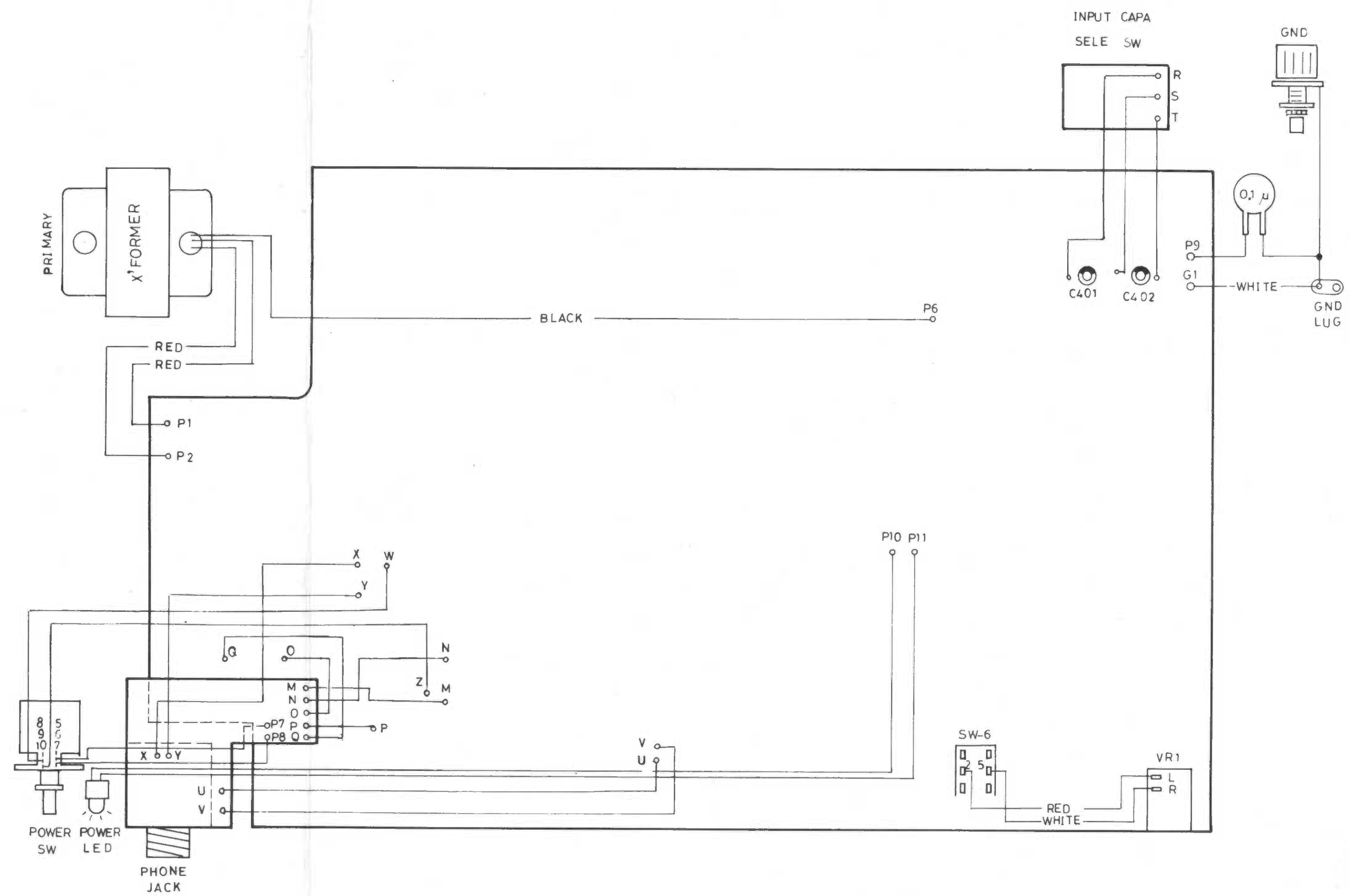
1. Input Capacitor Selector CKT
2. Phono AMP CKT
3. Tone AMP CKT
4. Regulator CKT
5. Tone Control CKT
6 Delay CKT
7 Phone AMP CKT
8. Power Switch
9. Transformer
10. Voltage Selector
11. Input Jack
12. Tape Input & Output Jack
13. Pre-out & Hi-Level Out



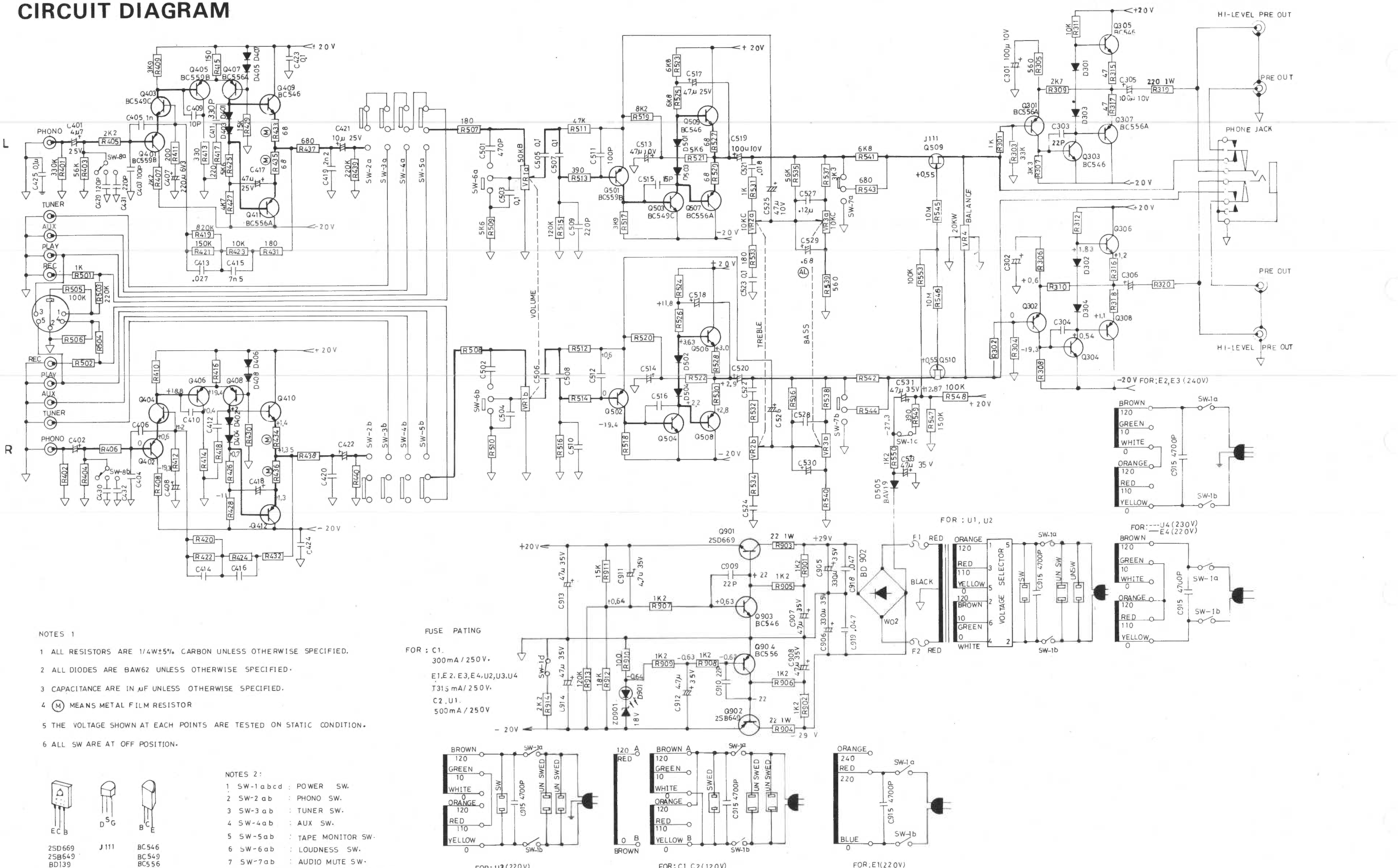


WIRING DIAGRAM





CIRCUIT DIAGRAM



FUSE PATING

FOR : C1.
300mA / 250V.
E1,E2, E3,E4,U2,U3,U4
T315mA / 250V.
C2, U1.
500mA / 250V

NOTES 1

1 ALL RESISTORS ARE 1/4W±5% CARBON UNLESS OTHERWISE SPECIFIED.

2 ALL DIODES ARE BAW62 UNLESS OTHERWISE SPECIFIED.

3 CAPACITANCE ARE IN μF UNLESS OTHERWISE SPECIFIED.

4 (M) MEANS METAL FILM RESISTOR

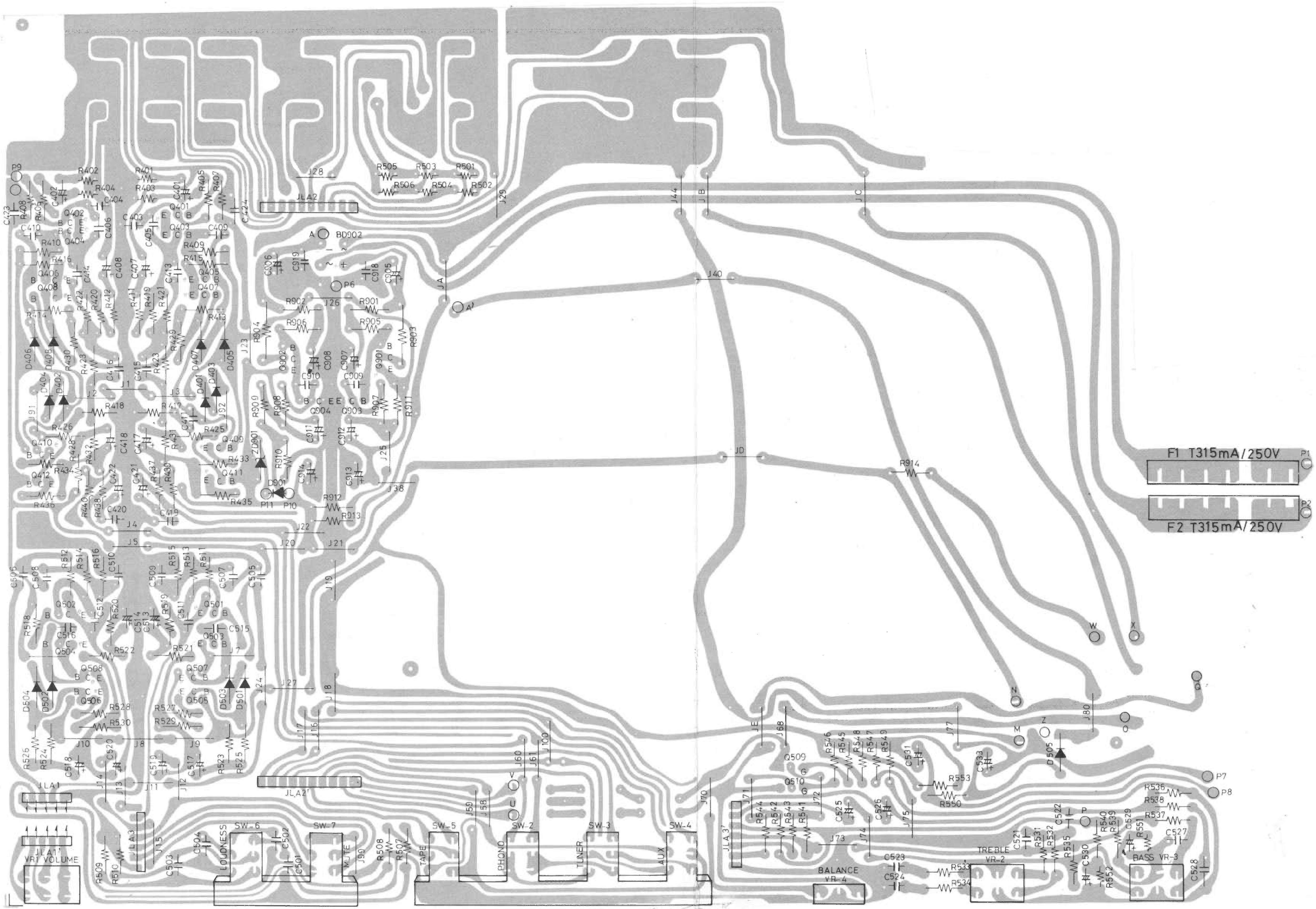
5 THE VOLTAGE SHOWN AT EACH POINTS ARE TESTED ON STATIC CONDITION.

6 ALL SW ARE AT OFF POSITION.

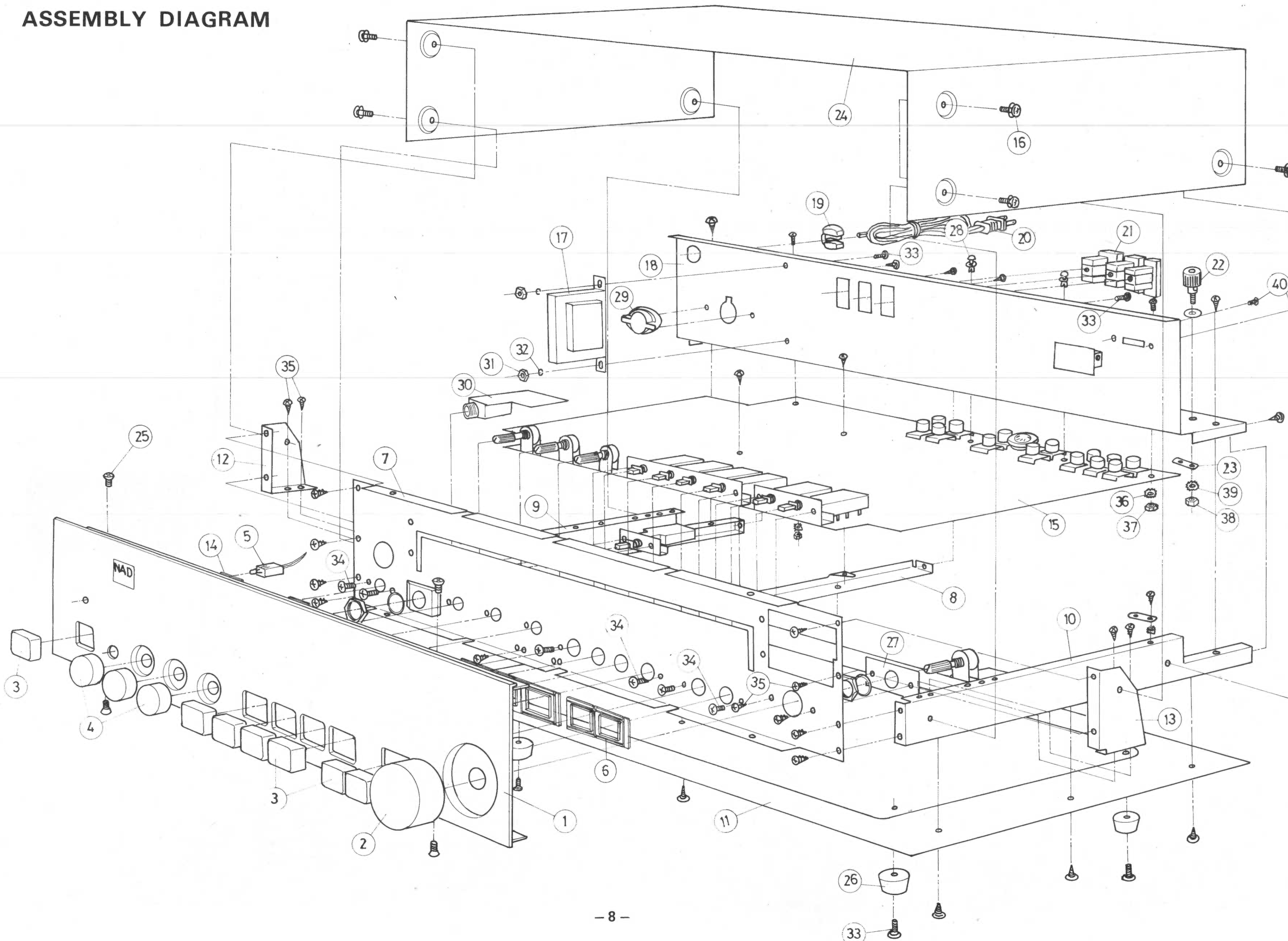
NOTES 2:

1 SW-1abcd : POWER SW.
2 SW-2ab : PHONO SW.
3 SW-3ab : TUNER SW.
4 SW-4ab : AUX SW.
5 SW-5ab : TAPE MONITOR SW.
6 SW-6ab : LOUDNESS SW.
7 SW-7ab : AUDIO MUTE SW.
8 SW-8ab : IN PUT CAPA SELE SW.

PCB PARTS LOCATION



ASSEMBLY DIAGRAM



ASSEMBLY PARTS

ITEM	DESCRIPTION	PART NO.	Q'TY
1	Front Panel	11-8194	1
2	Volume Knob	12-3036	1
3	Push Knob	12-3039	7
4	Control Knob	12-3038	3
5	Wire Assembly	14-4003	1
6	Cushion	28-2042	7
7	Front Chassis	11-6046	1
8	Center Chassis	11-6044	1
9	Auxiliary Chassis L	11-6040	1
10	Auxiliary Chassis R	11-6039	1
11	Bottom Chassis	11-6069	1
12	Bracket (Left)	11-2113	1
13	Bracket (Right)	11-2112	1
14	Supporter for LED	13-2113	1
15	PCB Assembly	90-1140	1
16	Special Screw	15-2051	6
17	Power Transformer	29-2064	1
18	Back Panel	11-8193	1
19	Cord Bushing 4N4	14-5003	1
20	Power Cord	14-5037* B	1
21	AC Outlet	12-2006	3
22	Ground Screw	15-2037	1
23	Lug	11-3026	2
24	Cabinet	50-1017	1
25	Flat Machine Screw	S1E03+I06SZ–2	4
26	Rubber Foot	28-1029	4
27	Bracket for Volume	11-2123	1
28	Plastic Rivet	15-2048	2

ITEM	DESCRIPTION	PART NO.	Q'TY
29	Voltage Selector	31-1121	1
30	PCB 50x48mm	19-1140	0.5
31	Nut	NO4B0713.2SZ	2
32	Spring Washer	A04G07SL01	2
33	Machine Screw M4x10	S1B04+I10SL–2	6
34	Machine Screw M 3x6	S1B03+I06SL-2	8
35	Tapping Screw T3x8	S2B03+I08SL-2	33
36	Gear Washer	A03I6.5SZ01	2
37	Nut	N03B5.5I02SZ	2
38	Nut	N3.5B06I2.8SZ	1
39	Gear Washer	A3.5I078SZ01	1
40	Machine Screw M2.6x4	S1B2.6+I04SL-2	2

PARTS LIST

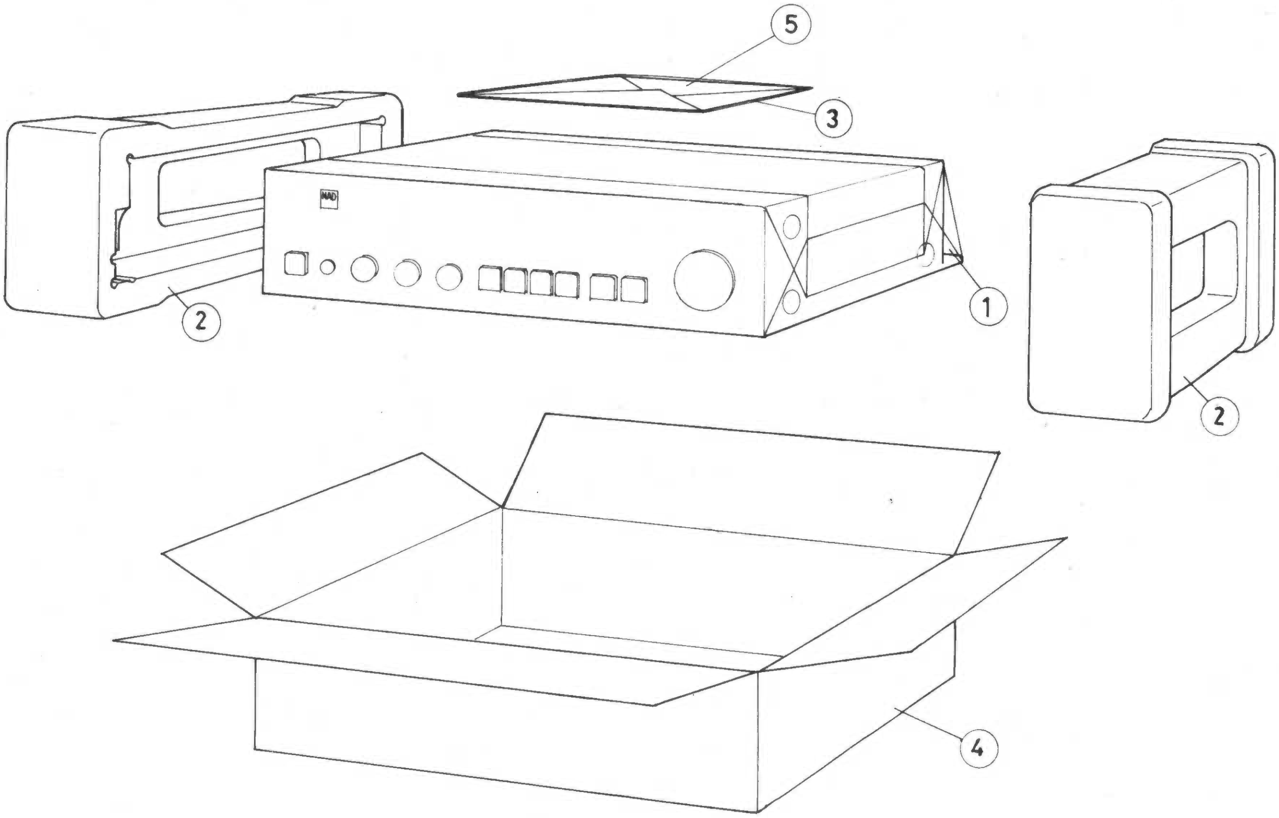
REF. NO.	PART NO.	DESCRIPTION	NOTE
		RESISTORS (OHM)	
R301 R302	16-1/4CS102J	Carbon 1/4W 1K +–5%	
R303 R304	16-1/4CS333J	Carbon 1/4W 33K +–5%	
R305 R306	16-1/4CU561J	Carbon 1/4W 560 +–5%	
R307 R308	16-1/4CS332J	Carbon 1/4W 3K3 +–5%	
R309 R310	16-1/4CU272J	Carbon 1/4W 2K7 +–5%	
R311 R312	16-1/4CU103J	Carbon 1/4W 10K +–5%	
R315 R316	16-1/4CU470J	Carbon 1/4W 47 +–5%	
R317 R318	16-1/4CU470J	Carbon 1/4W 47 +–5%	
R319 R320	16-1A221J	Metal Oxide 1W 220 +–5%	
R321 R322	16-1/4CP273J	Carbon 1/4W 27K +–5%	
R401 R402	16-1/4CR334J	Carbon 1/4W 330K +–5%	
R403 R404	16-1/4CR563J	Carbon 1/4W 56K +–5%	
R405 R406	16-1/4CA222J	Carbon 1/4W 2K2 +–5%	
R407 R408	16-1/4CA222J	Carbon 1/4W 2K2 +–5%	
R409 R410	16-1/4CA392J	Carbon 1/4W 3K9 +–5%	
R411 R412	16-1/4CA201J	Carbon 1/4W 200 +–5%	
R413 R414	16-1/4MA331J	Metal 1/4W 330 +–5%	
R415 R416	16-1/4MA151J	Metal 1/4W 150 +–5%	
R417 R418	16-1/4CA221J	Carbon 1/4W 220 +–5%	
R419 R420	16-1/4CA824J	Carbon 1/4W 820K +–5%	
R421 R422	16-1/4CA154J	Carbon 1/4W 150K +–5%	
R423 R424	16-1/4CA103J	Carbon 1/4W 10K +–5%	
R425 R426	16-1/4CA562J	Carbon 1/4W 5K6 +–5%	
R427 R428	16-1/4CA472J	Carbon 1/4W 4K7 +–5%	
R429 R430	16-1/4CA153J	Carbon 1/4W 15K +–5%	
R431 R432	16-1/4CA181J	Carbon 1/4W 180 +–5%	
R433 R434	16-1/4MA680J	Metal 1/4W 68 +–5%	
R435 R436	16-1/4MA680J	Metal 1/4W 68 +–5%	
R437 R438	16-1/4CA681J	Carbon 1/4W 680 +–5%	
R439 R440	16-1/4CA224J	Carbon 1/4W 220K +–5%	
R501 R502	16-1/4CR102J	Carbon 1/4W 1K +–5%	
R503 R504	16-1/4CR224J	Carbon 1/4W 220K +–5%	
R505 R506	16-1/4CR104J	Carbon 1/4W 100K +–5%	
R507 R508	16-1/4CA181J	Carbon 1/4W 180 +–5%	
R509 R510	16-1/4CA562J	Carbon 1/4W 5K6 +–5%	
R511 R512	16-1/4CA473J	Carbon 1/4W 47K +–5%	
R513 R514	16-1/4CA391J	Carbon 1/4W 390 +–5%	
R515 R516	16-1/4CA124J	Carbon 1/4W 120K +–5%	
R517 R518	16-1/4CA392J	Carbon 1/4W 3K9 +–5%	
R519 R520	16-1/4CA822J	Carbon 1/4W 8K2 +–5%	
R521 R522	16-1/4CA562J	Carbon 1/4W 5K6 +–5%	
R523 R524	16-1/4CA682J	Carbon 1/4W 6K8 +–5%	

REF. NO.		PART NO.	DESCRIPTION				NOTE
R525	R526	16-1/4CA682J	Carbon	1/4W	6K8	+–5%	
R527	R528	16-1/4MA680J	Metal	1/4W	68	+–5%	
R529	R530	16-1/4MA680J	Metal	1/4W	68	+–5%	
R531	R532	16-1/4CA102J	Carbon	1/4W	1K	+–5%	
R533	R534	16-1/4CA181J	Carbon	1/4W	180	+–5%	
R535	R536	16-1/4CA563J	Carbon	1/4W	56K	+–5%	
R537	R538	16-1/4CA332J	Carbon	1/4W	3K3	+–5%	
R539	R540	16-1/4CA561J	Carbon	1/4W	560	+–5%	
R541	R542	16-1/4CA682J	Carbon	1/4W	6K8	+–5%	
R543	R544	16-1/4CA681J	Carbon	1/4W	680	+–5%	
R545	R546	16-1/4CA106J	Carbon	1/4W	10M	+–5%	
R547		16-1/4CA154J	Carbon	1/4W	150K	+–5%	
R548		16-1/4CA104J	Carbon	1/4W	100K	+–5%	
R549		16-1/4CA391J	Carbon	1/4W	390	+–5%	
R550		16-1/4CA122J	Carbon	1/4W	1K2	+–5%	
R553		16-1/4CA104J	Carbon	1/4W	100K	+–5%	
R901	R902	16-1/4CA122J	Carbon	1/4W	1K2	+–5%	
R903	R904	16-1A220J	Metal Oxide	1W	22	+–5%	
R905	R906	16-1/4CA122J	Carbon	1/4W	1K2	+–5%	
R907	R908	16-1/4CA122J	Carbon	1/4W	1K2	+–5%	
R909		16-1/4CA122J	Carbon	1/4W	1K2	+–5%	
R910		16-1/4MA101J	Metal	1/4W	100	+–5%	
R911		16-1/4CA153J	Carbon	1/4W	15K	+–5%	
R912		16-1/4CA183J	Carbon	1/4W	18K	+–5%	
R913		16-1/4CA124J	Carbon	1/4W	120K	+–5%	
R914		16-1/4CA222J	Carbon	1/4W	2K2	+–5%	
			CAPACITORS				
C301	C302	17-1EF107Y	Electrolytic		100uF+50–10%	10V	
C303	C304	17-5DF220M	Ceramic		22pF+–20%	50V	
C305	C306	17-1EF107Y	Electrolytic		100uF+50–10%	10V	
C307	C308	17-1.6R105K	Electrolytic	Solid	1uF+–10%	16V	
C401	C402	17-2.5ER475Y	Electrolytic		4.7uF+50–10%	25V	
C403	C404	17-5DR101MSL	Ceramic		100pF+–20% SL	50V	
C405	C406	17-5FF102J	Mylar		0.001uF+–5%	50V	
C407	C408	17-0.63ER227Y	Electrolytic		220uF+50–10%	6.3V	
C409	C410	17-5DR100DSL	Ceramic		10pF+–0.5pF SL	50V	
C411	C412	17-5DR331MSL	Ceramic		330pF+–20% SL	50V	
C413	C414	17-5FF273J	Mylar		0.027uF+–5%	50V	
C415	C416	17-5FF752J	Mylar		0.0075uF+–5%	50V	
C417	C418	17-2.5ER476Y	Electrolytic		47uF+50–10%	25V	
C419	C420	17-5FF222J	Mylar		0.0022uF+–5%	50V	

REF. NO.		PART NO.	DESCRIPTION			NOTE
C421	C422	17-2.5ER106Y	Electrolytic	10uF+50–10%	25V	
C423	C424	17-5D104M	Ceramic	0.1uF+–20%	50V	
C425		17-5D104M	Ceramic	0.1uF+–20%	50V	
C429	C430	17-5DF121M	Ceramic	120pF+–20%	50V	
C431	C432	17-5DF221M	Ceramic	220pF+–20%	50V	
C501	C502	17-5DR471KSL	Ceramic	470pF+–10% SL	50V	
C503	C504	17-5F104J	Mylar	0.1uF+–5%	50V	
C505	C506	17-5F104J	Mylar	0.1uF+–5%	50V	
C507	C508	17-5F104J	Mylar	0.1uF + –5%	50V	
C509	C510	17-5DR221M	Ceramic	220pF+–20%	50V	
C511	C512	17-5DR101MSL	Ceramic	100pF+–20% SL	50V	
C513	C514	17-1ER476Y	Electrolytic	47uF+50–10%	10V	
C515	C516	17-5DR150KSL	Ceramic	15pF+–0.5pF SL	50V	
C517	C518	17-2.5ER476Y	Electrolytic	47uF+50–10%	25V	
C519	C520	17-1EF107Y	Electrolytic	100uF+50–10%	10V	
C521	C522	17-5FF183J	Mylar	0.018uF+–5%	50V	
C523	C524	17-5F104J	Mylar	0.1uF+–5%	50V	
C525	C526	17-1ER476Y	Electrolytic	47uF+50–10%	10V	
C527	C528	17-5F124J	Mylar	0.12uF+–5%	50V	
C529	C530	17-1.6R684K	Electrolytic, Solid	0.68uF+–10%	16V	
C531		17-3.5ER476Y	Electrolytic	47uF+50–10%	35V	
C533		17-3.5ER476Y	Electrolytic	47uF+50–10%	35V	
C905	C906	17-3.5EF337Y	Electrolytic	330uF+50–10%	35V	
C907	C908	17-3.5ER476Y	Electrolytic	47uF+50–10%	35V	
C909	C910	17-5DR220MSL	Ceramic	22PF+–20% SL	50V	
C911	C912	17-3.5ER475Y	Electrolytic	4.7uF+50–10%	35V	
C913	C914	17-3.5ER476Y	Electrolytic	47uF+50–10%	35V	
C918	C919	17-5DR473Z	Ceramic	0.047uF+80–20%	50V	
			TRANSISTORS			
Q301	Q302	30-2096	BC556A			
Q303	Q304	30-2090	BC546			
Q305	Q306	30-2090	BC546			
Q307	Q308	30-2096	BC556A			
Q401	Q402	30-2085-2	BC559B			
Q403	Q404	30-2084-3	BC549C			
Q405	Q406	30-2085-2	BC559B			
Q407	Q408	30-2096	BC556A			
Q409	Q410	30-2090	BC546			
Q411	Q412	30-2096	BC556A			
Q501	Q502	30-2085-2	BC559B			
Q503	Q504	30-2084-3	BC549C			

REF. NO.		PART NO.	DESCRIPTION	NOTE
Q505	Q506	30-2090	BC546	
Q507	Q508	30-2096	BC556A	
Q509	Q510	30-2265	J111	
Q901		30-2260	2SD669C/2SD669D	
Q902		30-2259	2SB649C/2SB649D	
Q903		30-2090	BC546	
Q904		30-2096	BC556A	
D301	D302	30-1019	Diode BAW62/BAW76	
D303	D304	30-1019	Diode BAW62/BAW76	
D401	D402	30-1019	Diode BAW62/BAW76	
D403	D404	30-1019	Diode BAW62/BAW76	
D405	D406	30-1019	Diode BAW62/BAW76	
D407	D408	30-1019	Diode BAW62/BAW76	
D501	D502	30-1019	Diode BAW62/BAW76	
D503	D504	30-1019	Diode BAW62/BAW76	
D505		30-1078	Diode BAV19	
ZD901		30-1038	Zener 18V 1/2W	
BD902		30-1040	Rectifier 200V 1.5A W02	
D901		30-1105	LED RED LT211CRD	
MISCELLANEOUS PARTS				
SW1		31-1130A*A	Power Switch Push SDU3PE27 UL/CSA	
SW2	SW5	31-1071F	Switch Push SUE44FL063	
SW6	SW7	31-1074F	Switch Push SUE24FL004	
SW8		31-1079F	Switch Slide SSB23FL025	
VR1		29-4097F	Variable Resistor GM80BFL279–50KBx2	
VR2		29-1075F	Variable Resistor GM70EFL223–10KCx2	
VR3		29-4075F	Variable Resistor GM70EFL223–10KCx2	
VR4		29-4076F	Variable Resistor VM10EFL250–20KW	
		WA-0D05-080K	Jumper Lead Assembly 2877 5x80mm	
		WA-0D07-200K	Jumper Lead Assembly 2877 7x200mm	
		WA-0D10-200K	Jumper Lead Assembly 2877 10x200mm	
		11-3025	Fuse Lug	
		12-2006	AC Outlet	
		12-2067	RCA Socket 1P PCB Type	
		12-2015	DIN Jack	
		12-2077	Phone Jack PCB LJ306A–HW	
		13-4039	Capacitor Boots	
		14-5037*B	Power Cord UL/CSA SPT-2 W/Plug	
C915		17-2011	Capacitor 4700 pF 125VAC	
		29-2064-8	Power Transformer EI–48 Multi-V	
F1	F2	32-15000U	Fuse 6.3x32mm UL/CSA Normal 500mA	

PACKING DIAGRAM



ITEM	PART NO.	DESCRIPTION	Q'TY
1.	26–0005	Poly Paper	1
2.	34–1033	Polylone	2
3.	26–2434	Polybag	1
4.	CT–5100	Inner Carton	1
5.	21–4032	Instruction Manual	1