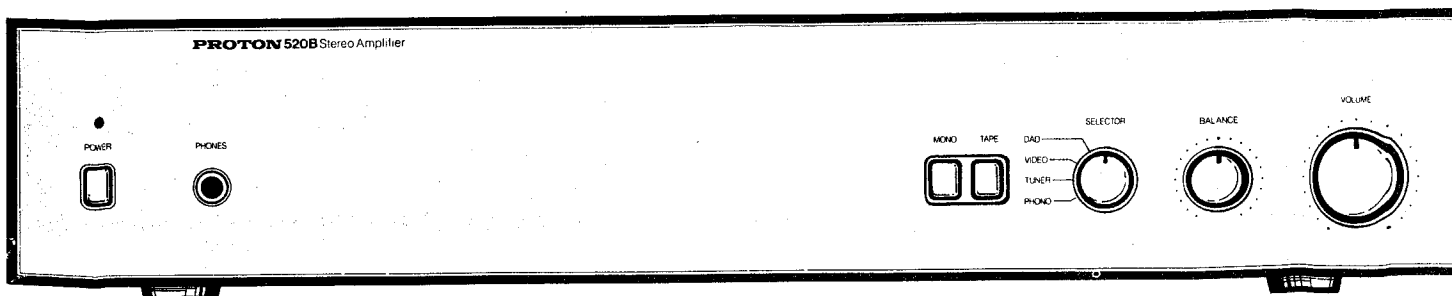


PROTON SERVICE 520B MANUAL

STEREO AMPLIFIER



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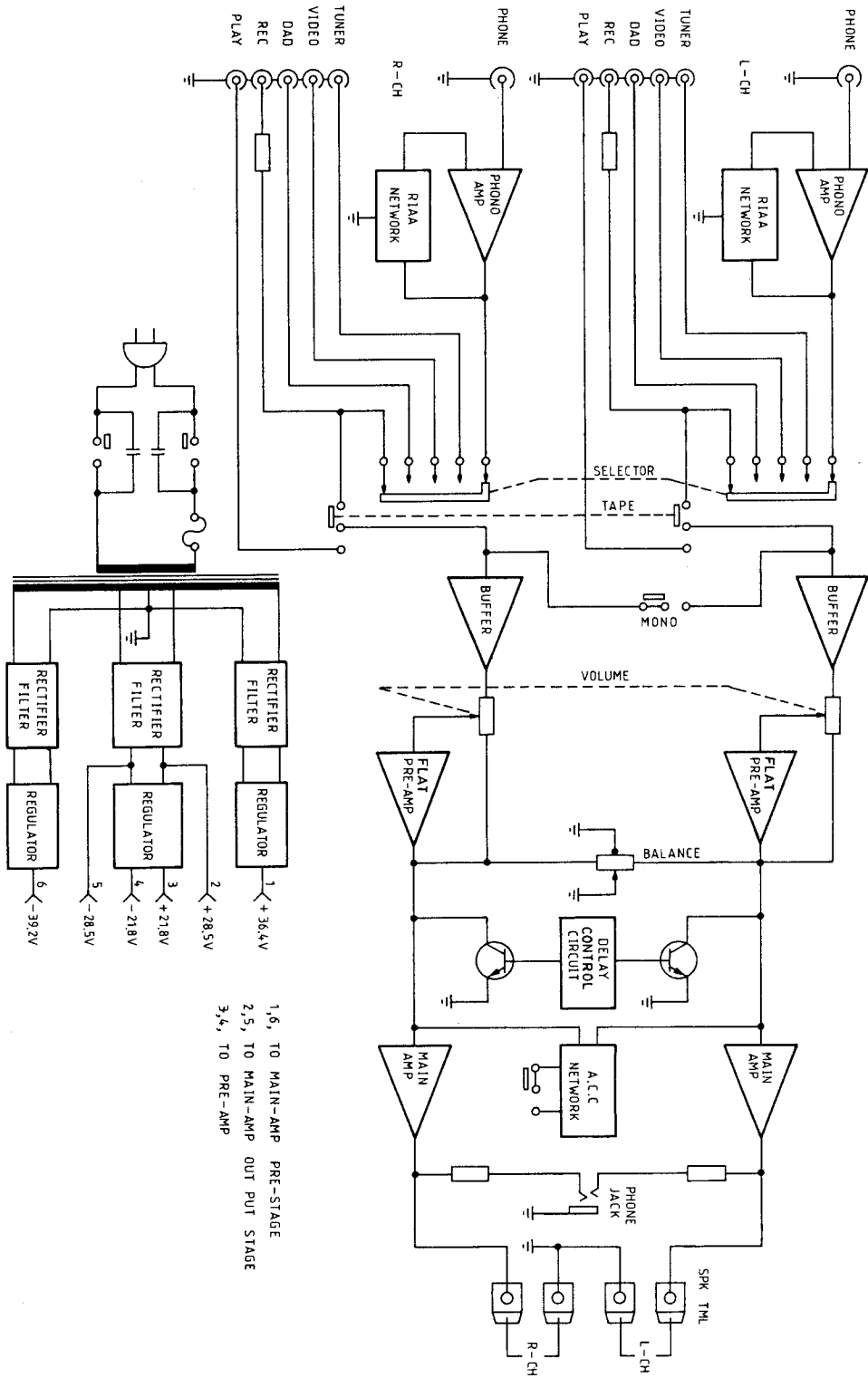
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ALIGNMENT INSTRUCTION

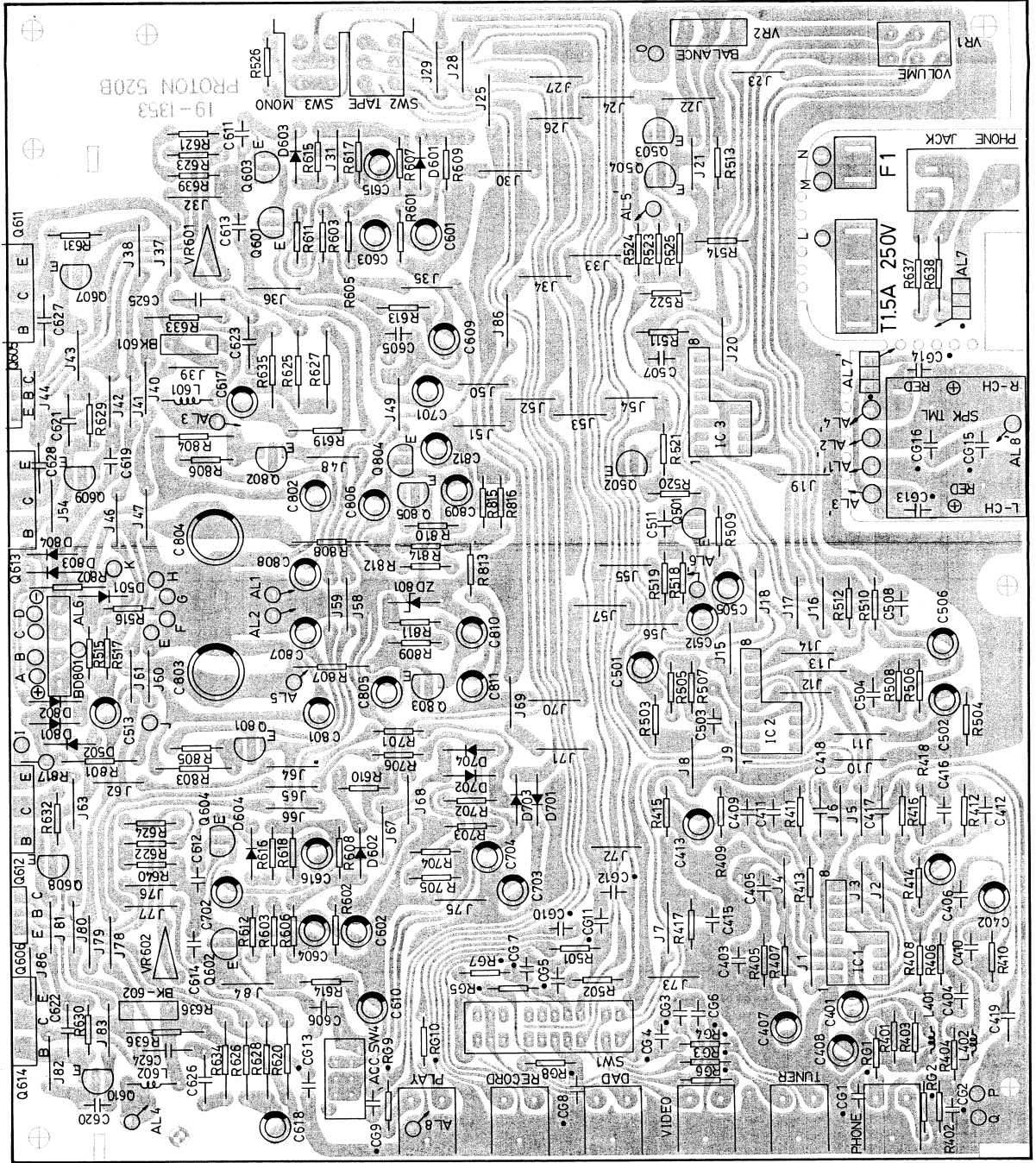
IDLE CURRENT ALIGNMENT

1. Turn VR601,VR602 to fully counter clockwise position.
2. Push on POWER for 5 minutes pre-heating.
3. Set the volume control at minimum position.
4. Remove the load from speaker terminals.
5. Unsolder each solder joint on R631,R632 which were be shorted in the circuitry, than soldering 1 OHM $\frac{1}{4}$ Watt carbon resistor on R631,R632 position.
6. Connect DC millivolt-meter across R631 for right channel and R632 for left channel. The meter sensitivity should be set at 100mV full scale deflection.
7. Adjust VR601 and VR602 properly so that the reading of meter is between 25mV and 50mV, the alignment is completed.
8. Next to short the R631 (right channnel) and R632 (left channel) 1 OHM resistors.

PACKING DIAGRAM



PCB PARTS LOCATION (BOTTOM VIEW)



ELECTRICAL PARTS LIST

REF. NO.	PART. NO.	DESCRIPTION	QTY
RESISTORS (All are carbon film 1/4W +/-5% unless noted otherwise).			
R401-R402	16-1/4CA1547	150K OHM	1
R403-R404	16-1/4CA2227	2K2 OHM	2
R405-R406	16-1/4CA2637	68K OHM	2
R407-R408	16-1/4CA2037	200 OHM	2
R409-R410	16-1/4CA1247	1.2K OHM	2
R411-R412	16-1/4CA1037	10K OHM	2
R413-R414	16-1/4CA1817	180 OHM	2
R415-R416	16-1/4CA1027	10K OHM	2
R417-R418	16-1/4CA1047	10K OHM	2
R501-R502	16-1/4CA2247	2.2K OHM	2
R503-R504	16-1/4CA1247	1.2K OHM	2
R505-R506	16-1/4CA1037	10K OHM	2
R509-R510	16-1/4CA1027	10K OHM	2
R511-R512	16-1/4CA3937	39K OHM	2
R513-R514	16-1/4CA1027	10K OHM	2
R515-R516	16-1/4CA0617	680 OHM	2
R517	16-1/4CA1447	1.4K OHM	1
R518	16-1/4CA2227	2.2K OHM	1
R519	16-1/4CA4727	47K OHM	1
R520	16-1/4CA1537	15K OHM	1
R521	16-1/4CA5617	560 OHM	1
R522	16-1/4CA3937	39K OHM	1
R523	16-1/4CA1337	1.3K OHM	1
R524-R525	16-1/4CA1027	10K OHM	2
R601-R602	16-1/4CA2247	2.2K OHM	2
R603-R604	16-1/4CA5627	560 OHM	2
R605-R606	16-1/4CA2237	2.2K OHM	2
R607-R608	16-1/4CA1337	1.3K OHM	2
R609-R610	16-1/4CA3307	33K OHM	2
R611-R612	16-1/4CA1027	10K OHM	2
R613-R614	16-1/4CA3937	39K OHM	2
R615-R616	16-1/4CA1827	1.8K OHM	2
R617-R618	16-1/4CA1017	100 OHM	2
R619-R620	16-1/4CA3917	390 OHM	2
R621-R622	16-1/4CA1237	1.2K OHM	2
R623-R624	16-1/4CA4717	470 OHM	2
R625-R626	16-1/2CA2727	2.7K OHM	2
R627-R628	16-1/2CA3327	3.3K OHM	2
R629-R630	16-1/2CA1817	1.8K OHM	2
R631-R632	16-1/4CA1807	1.8K OHM	2
R633-R634	16-1/4CA1007	10 OHM	2
R635-R636	16-1/2CA1527	1.5K OHM	2
R637-R638	16-1/4CA2227	2.2K OHM	2
R701	16-1/4CA2737	2.7K OHM	1
R702	16-1/4CA1227	1.2K OHM	1
R703-R704	16-1/4CA1827	1.8K OHM	2
R705	16-1/4CA1227	1.2K OHM	1
R706	16-1/4CA2327	2.3K OHM	1
R801-R802	16-1/4CA3337	3.3K OHM	2
R803-R804	16-1/2CA5107	5.1K OHM	2
R805-R806	16-1/4CA3337	3.3K OHM	2
R807-R808	16-1/2CA5707	5.7K OHM	2
R809-R810	16-1/4CA1027	10K OHM	2
R811	16-1/4CA1827	1.8K OHM	1
R812	16-1/4CA1827	1.8K OHM	1
R813	16-1/4CA1537	15K OHM	1
R814	16-1/4CA1027	10K OHM	1
R815	16-1/4CA1547	15K OHM	1
R816	16-1/4CA1547	15K OHM	1
R817	16-1/4CA5617	560 OHM	1
*R63-R610			

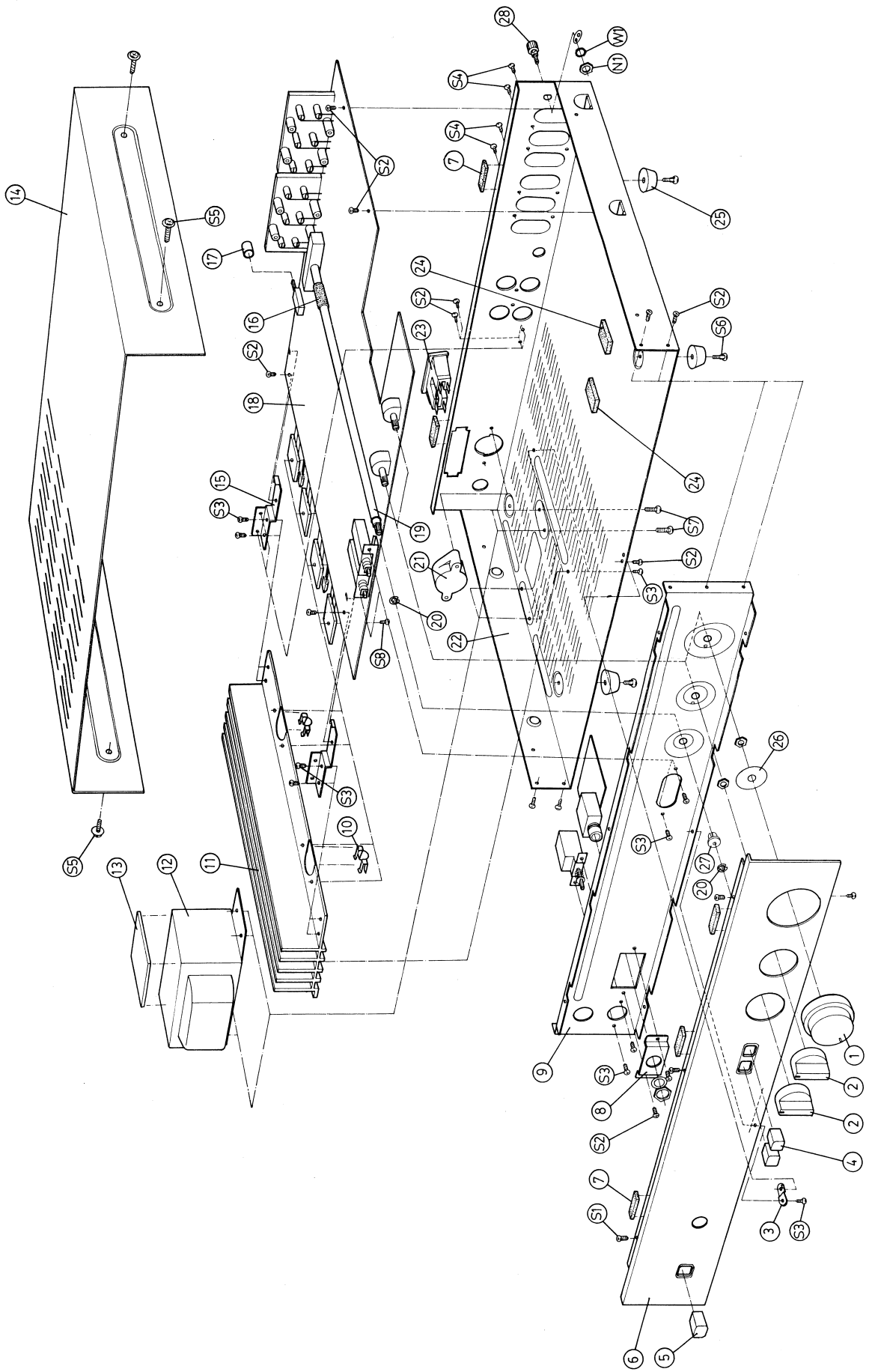
MECHANICAL PARTS LIST

REF. NO.	PART. NO.	DESCRIPTION	QTY
1	12-1168	VOLUME KNOB	1
2	12-1710	CONTROL KNOB	2
3	11-2398	PANEL BRACKET	3
4	12-2066	PUSH KNOB BK	4
5	12-2077	PUSH KNOB CR	5
6	11-8171	FRONT PANEL	6
7	28-2090	RETAINER	7
8	11-2328	PHONE'S BRACKET	8
9	11-6190	FRONT CHASSIS	9
10	11-5075	TR HOLDER	10
11	11-5602	HEAT SINK	11
12	29-2131-8	TRANSFORMER	12
13	28-2124	RUBBER RETAINER	13
14	50-1045	CABINET	14
15	11-2381	BRACKET	15
16	12-7003	TUBE	16
17	12-702-1	PUSH KNOB ROUND	17
18	90-1353	MAIN PCB	18
19	11-7076	SHAFT	19
20	15-5014	E-RING	20
21	31-1295	VOLTAGE SELECTOR	21
22	11-8356-1	MAIN CHASSIS & BACK PANEL	22
-2	-2	MAIN CHASSIS & BACK PANEL	
-3	-3	MAIN CHASSIS & BACK PANEL	
-4	-4	MAIN CHASSIS & BACK PANEL	
-5	-5	MAIN CHASSIS & BACK PANEL	
23	12-2193	AC RECEPTACLE	23
24	28-2134	RETAINER	24
25	28-1029	RUBBER FOOT	25
26	28-2120	MASKER	26
27	13-4027	SHAFT TUBE	27
28	15-2037	GROUND SCREW	28
51	51E03+106SL-2	PLATE SCREW M3X6	51
52	51E03+106SL-2	TAPPING SCREW T3X6	52
53	51E03+106SL-2	MACHINE SCREW M3X6	53
54	51E03+106SL	TAPPING SCREW T3X8	54
55	15-2062	SPECIAL SCREW M4X8	55
56	15-2063	STAND SCREW	56
57	51E04+106SL-2	MACHINE SCREW M4X8	57
58	51E03+106SL-2	MACHINE SCREW M3X6	58
N1	N3.506012.BEN	NUT 3.5X2.0T	N1
W1	A3.51075801	GEAR WASHER 3.5X1T	W1

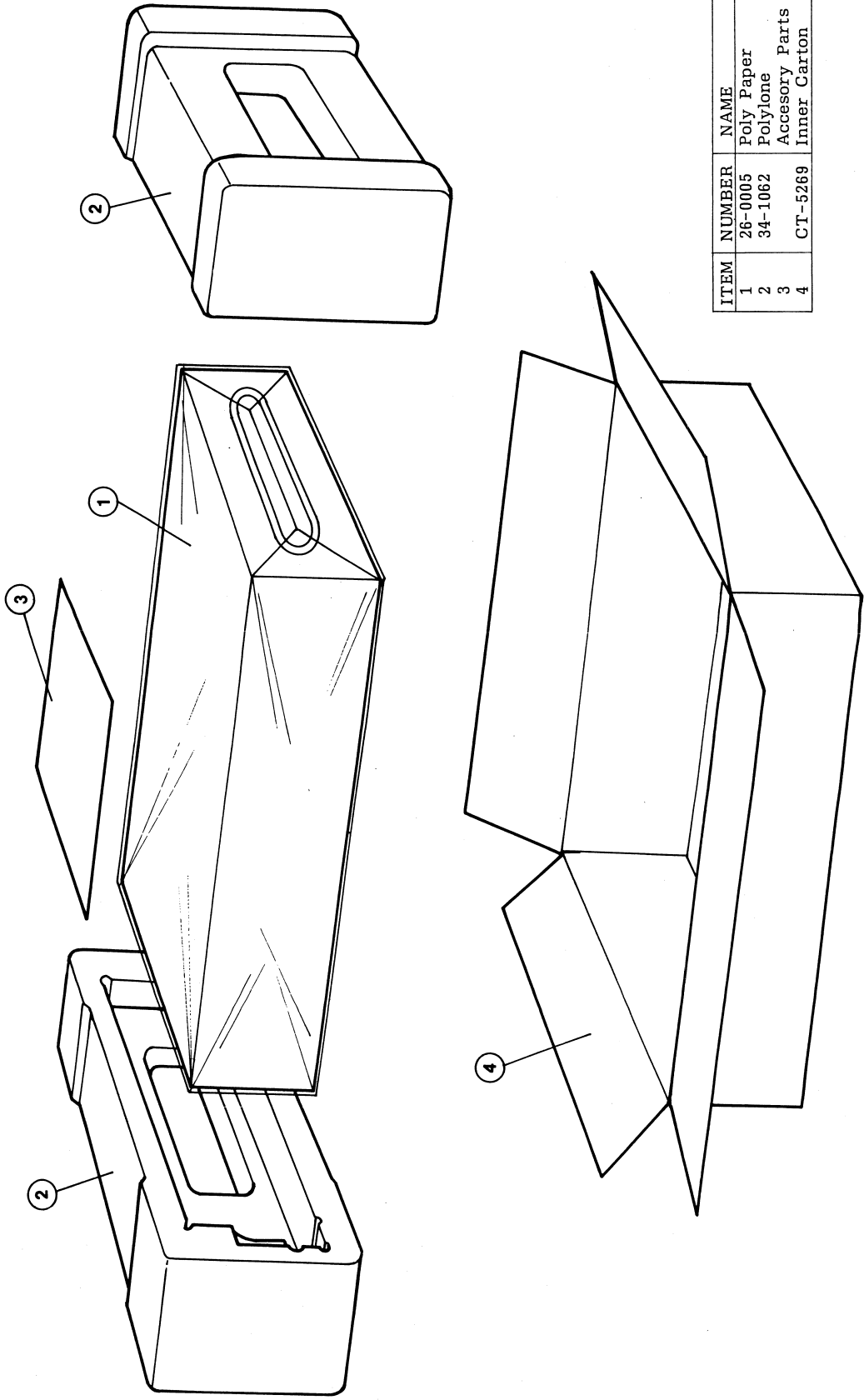
REF. NO.	PART. NO.	DESCRIPTION
0601-0602	30-2084-JTR	BC550C
0603-0604	30-2096-ZTR	BC554B
0605-0606	30-2097R	BC556
0607-0608	30-2337R	BC639
0609-0610	30-2347R	BC640
0611-0612	28C3837	28C3837
0613-0614	30-2383	28A186
0601	30-2097R	BC546
0602	30-2096-ZTR	BC556B
0603	30-2337R	BC639
0604	30-2347R	BC640
0605	30-2096-ZTR	BC556B
INTERMEDIATE CIRCUITS		
IC1A-IC1B	30-3272	DUAL OP M5220
IC2A-IC2B	30-3272	DUAL OP M5220
IC3A-IC3B	30-3272	DUAL OP M5220
MISCELLANEOUS		
L401-L402	29-1175	COIL 1.7MH +/-50-10A
L601-L602	29-1224	COIL AIR ION STRAIGHT
SW1	31-1300	SE ROT SWR 044F04
SW2-SW3	31-1332	SW PUSH SFTJ22ND08-FL
SW4	31-1276	SW PUSH SFTJ22ND08-FL
VR1A-VR1B	29-4272	VR 166 10X8
VR2	29-4249	VR 166 20X8
VR601-VR602	V80-F08101B	SEMI-FIX 68 100B FLAT
BRK01-BRK02	35-3011	BROWER A-22
AL7-AL7	WA-0003-350K	JUMPER LEAD ASSY 3M350MM
	CM07-SR2502-013	ZF SOCKET 450MM
	14-4227	WIRE ZF 230MM
	12-2078	PHONE JACK LT3000-W
	12-2093	SOCKET 6P
	12-2184	SPK 48 SCREW TERMINAL BOARD
	12-7006	TUBE 1.6X8
	WE-00605	TUNING PVC UL/CSA 6.5W BK
	11-3025	LUG FUSE HOLDER
	11-3022	LUG FUSE HOLDER
	32-1501W	FUSE 6.3X39MM UL/CSA SLOW 1.5A
	32-18000S	FUSE 5X20MM SEMO SLOW 8000A
	29-1272	SW POWER PUSH E8B813V
	29-1292	SW POWER PUSH E8B-8070V
	14-5049	POWER CORD SPT-2 #18 PUG W/P
	14-5033	POWER CORD 2X0.75 50MM FLUG DMSF
	14-5025	POWER CORD 3X0.75 50MM UK
	14-5013	POWER CORD 3X0.75 50MM FLUG SAA
	29-1331-1	POWER CORD SPT-2 #18 FLUG
	29-2131-4	XFR EI-76 120V CSA
	29-2131-5	XFR EI-76 220V/240V DMSF
	29-2131-7	XFR EI-76 225V/240V
	29-2131-2	XFR EI-76 110V
	29-2131-8	XFR EI-76 MULTI-V
	12-2193	RECEPTACLE UL/CSA AC-705F913
	12-2194	RECEPTACLE UL/CSA AC-701F913

NOTE: The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.
 *R63-R610/CSA-CG14 FOR GERMANY ONLY.

ASSEMBLY DIAGRAM



BLOCK DIAGRAM



ITEM	NUMBER	NAME
1	26-0005	Poly Paper
2	34-1062	Polythene
3		Accessory Parts
4	CT-5269	Inner Carton