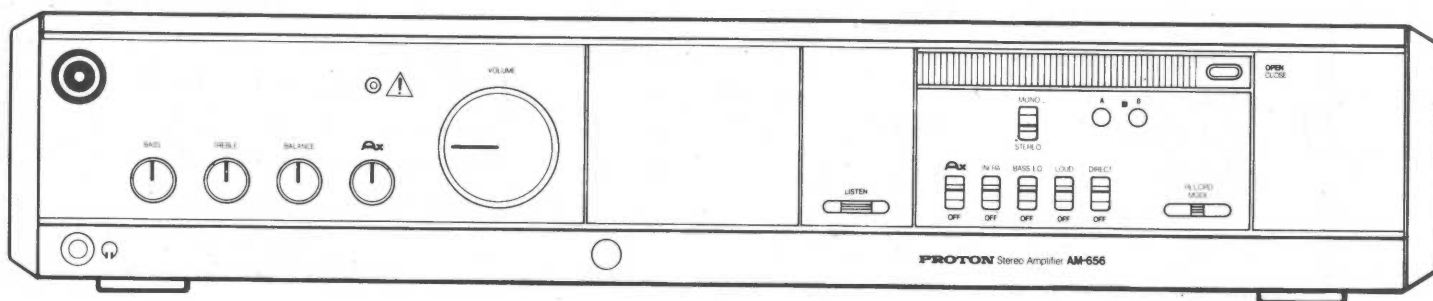


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PROTON SERVICE AM-656 MANUAL

STEREO RECEIVER



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SPECIFICATIONS

Rated Power Output

20Hz-20KHz, 8 Ohms, at rated THD	60 watts, Per Channel
Dynamic Power at 8 Ohms/4 Ohms/2 Ohms	
I.H.F. Standard 20ms duration	240W/450W/600W
Dynamic Headroom at 8 Ohms/4 Ohms/2 Ohms ..	6dB

Total Harmonic Distortion at rated power	0.02%
Inter Modulation Distortion at rated power	0.01%
Damping Factor	> 150
Frequency Response 20-20KHz	+ -0.3dB
Power Bandwidth at T.H.D 0.1%	10Hz-50KHz

Line Input Sensitivity

Video/Tape Play	150mV/150mV
Phono - MM	2.5mV
Phono - MC High/Low	0.2mV
Residual Noise (Flat)	1.0mV
Channel Crosstalk (1KHz)	75dB
Function Crosstalk (1KHz)	80dB

Phono

Input Resistance (MM/MC)	47K Ohm/100 Ohm
Overload @ 1KHz, T.H.D. 0.1% (MM)	150mV
T.H.D. @ 4.5V Output MM/MC	0.01%/0.03%
R.I.A.A. Accuracy MM/MC	+ -0.2dB/ + -0.5dB
Signal-to-Noise Ratio (A-Weighted)	
Video	95dB
Tape	95dB
Phono - MM	85dB
Phono - MC	75dB

Bass Boost/Cut (@ 100Hz)	+ 9dB/-9dB
Treble Boost/Cut (@ 10KHz)	+ 9dB/-9dB
Bass Equalization (@ 55Hz)	+ 3dB

Loudness

100Hz @ -3dB	+ 6dB
10KHz @ -30dB	+ 3dB

Dimensions

WxHxD in inches	18 1/2 x 3 7/8 x 15 5/8
WxHxD in mm	470 x 97 x 397

Weight

Net Weight	13.0Kg/28.6Lbs
Shipping Weight	14.4Kg/31.6Lbs

Power Consumption

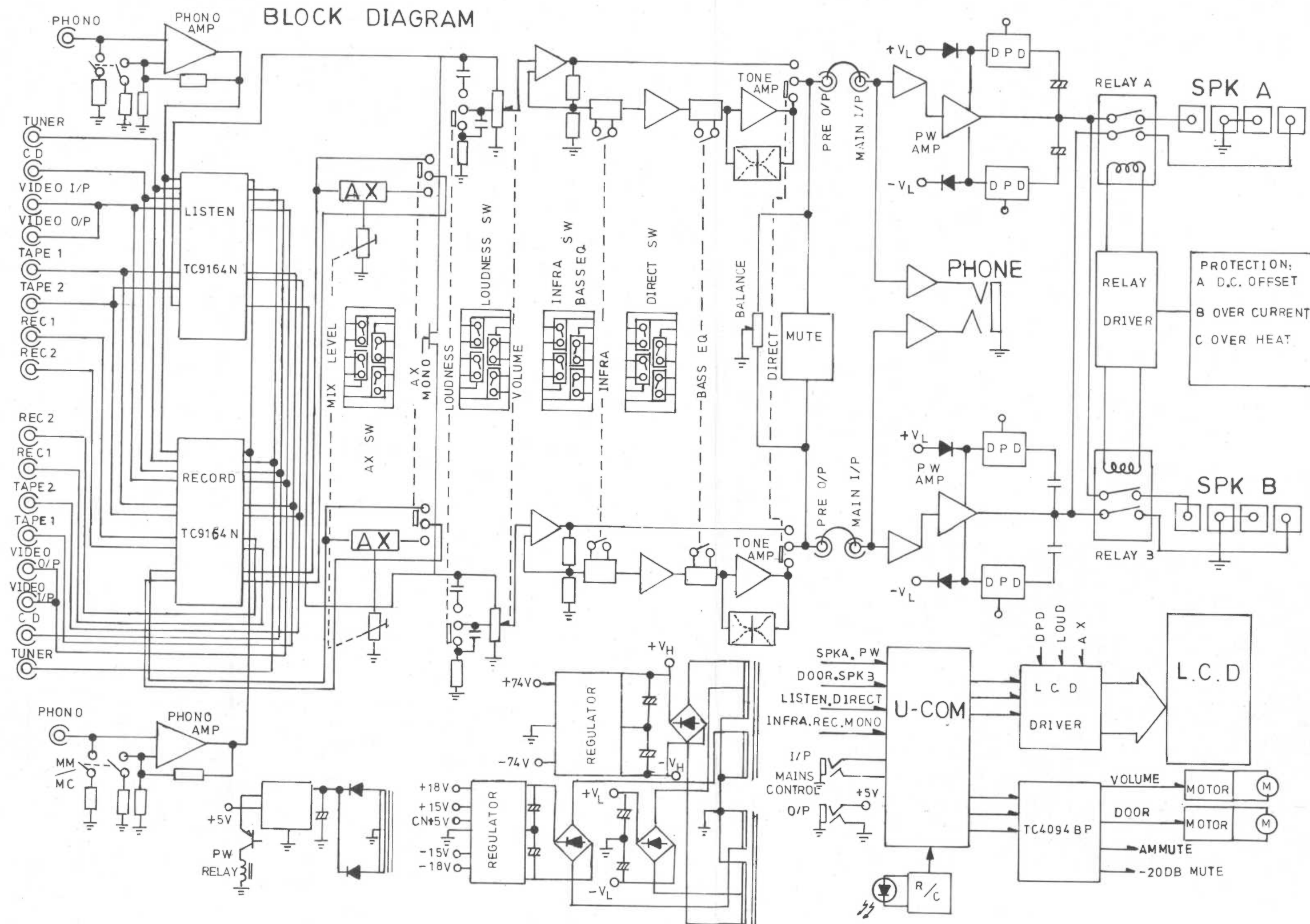
115V, 60Hz	500W
230V, 50Hz	500W

ALIGNMENT

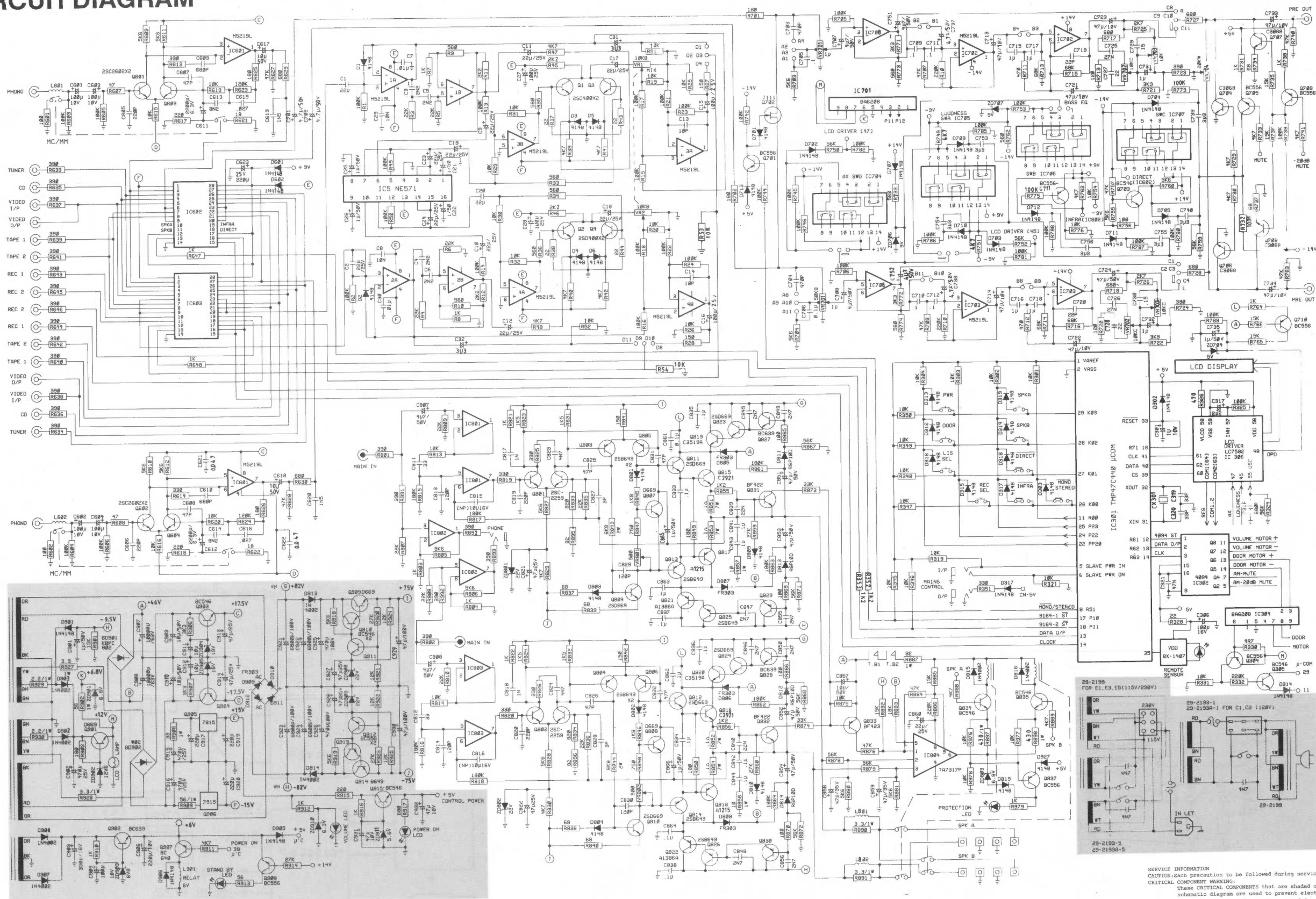
IDLE CURRENT ALIGNMENT

1. Set the volume control at minimum position.
2. Remove the load from speaker terminals.
3. Push on power for 5 minutes pre-heating.
4. Connect DC millivolt-meter across R851 (0.1 ohm) for left channel and R852 (0.1 ohm) for right channel. The meter sensitivity should be set at 100mV full scale deflection.
5. If the reading from the meter is between 2.5mV and 5.0mV the alignment is completed.
6. If the reading were less than 2.5mV or more than 5.0mV. Should be alignment the value of VR801 (left channel) VR802 (right channel) till the reading is between 2.5mV and 5.0mV.

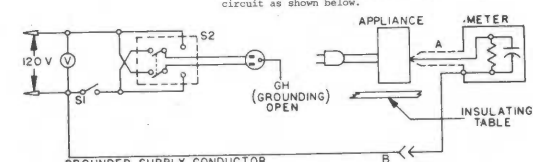
BLOCK DIAGRAM



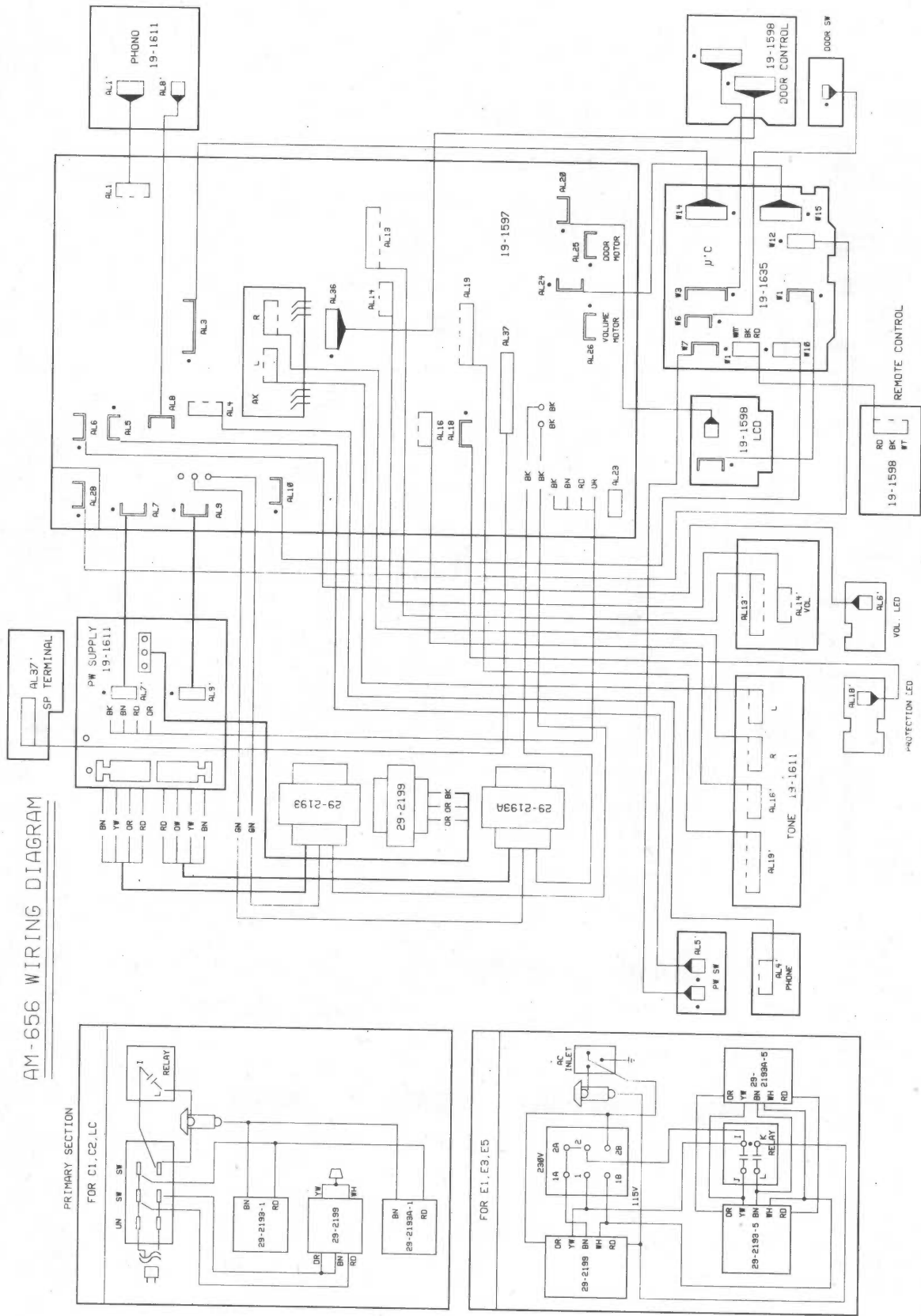
CIRCUIT DIAGRAM



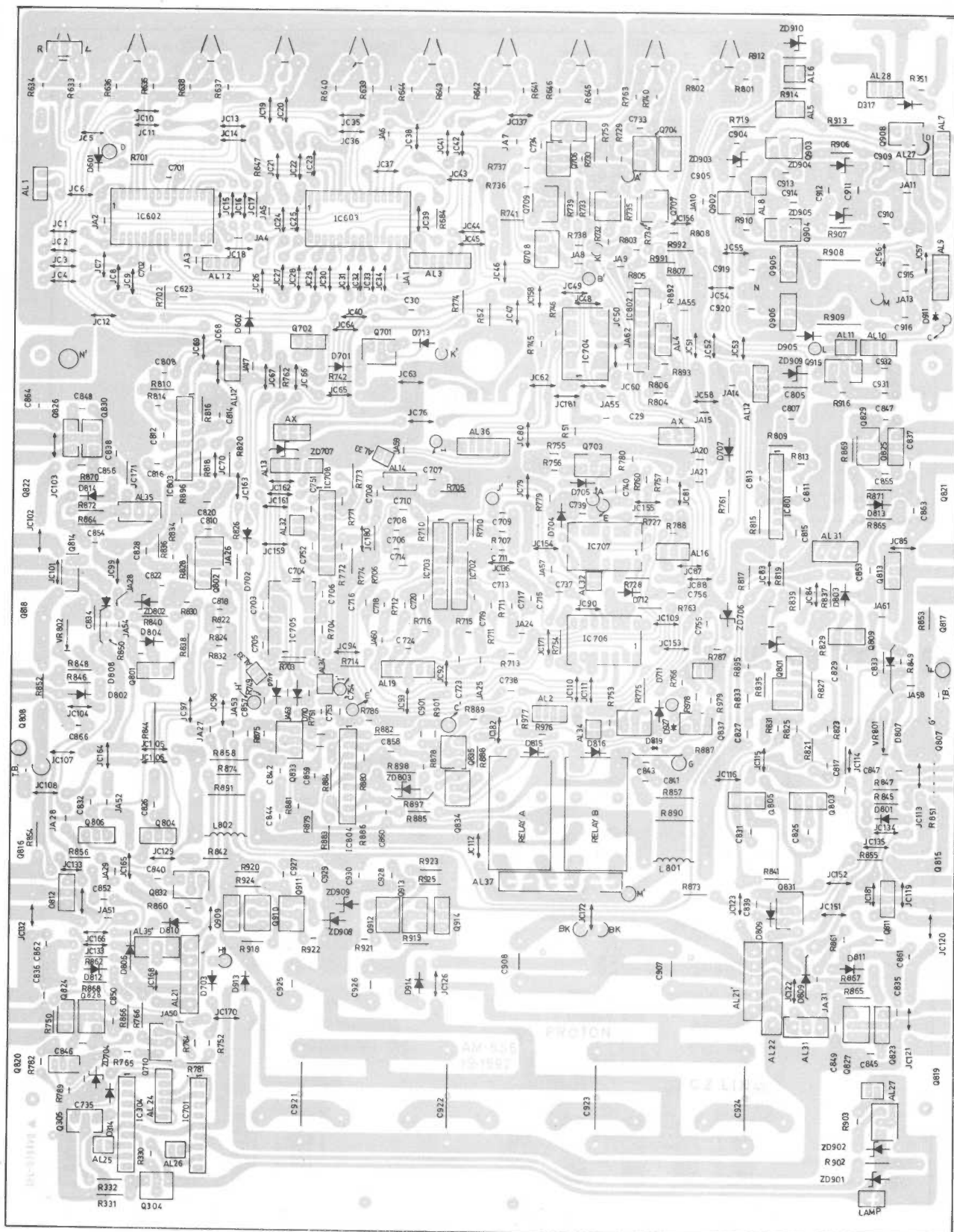
SERVICE INFORMATION
CAUTION: Each precaution to be followed during servicing.
CRITICAL COMPONENT WARNING:
These CRITICAL COMPONENTS that are shaded of the schematic diagram are used to prevent electric shock and fire hazard. All these special components must be replaced only with the same type identical to these in the schematic diagram.
CAUTION: Make leakage current measurement before returning the appliance to the customer. See measurement circuit as shown below.



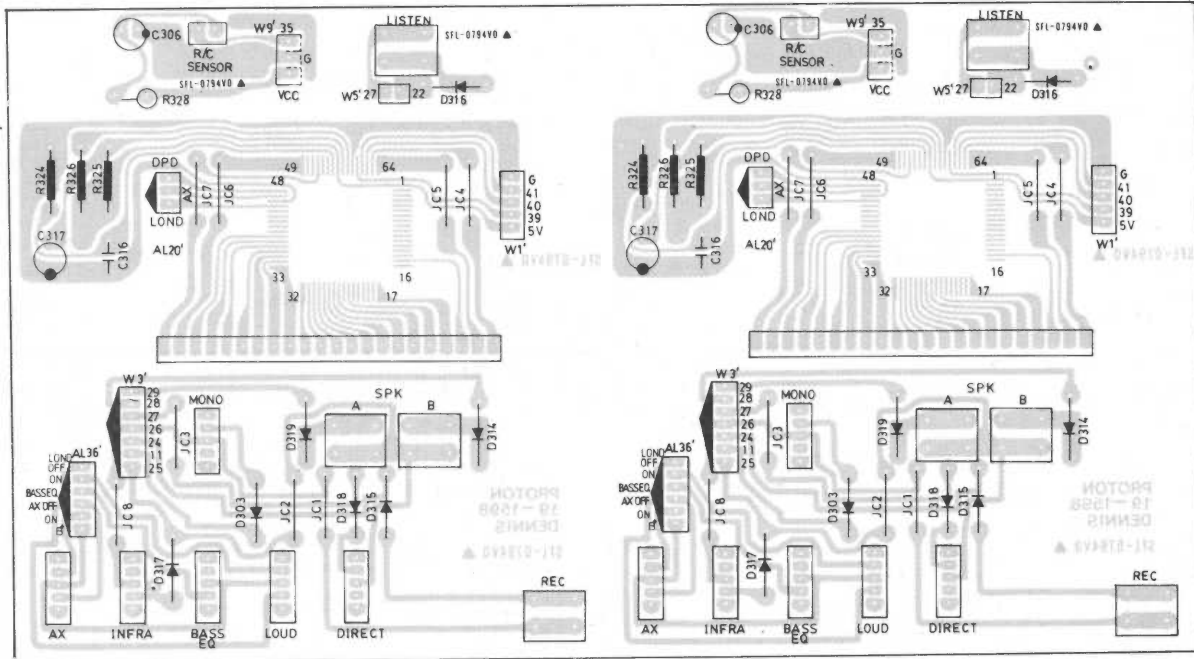
WIRING DIAGRAM



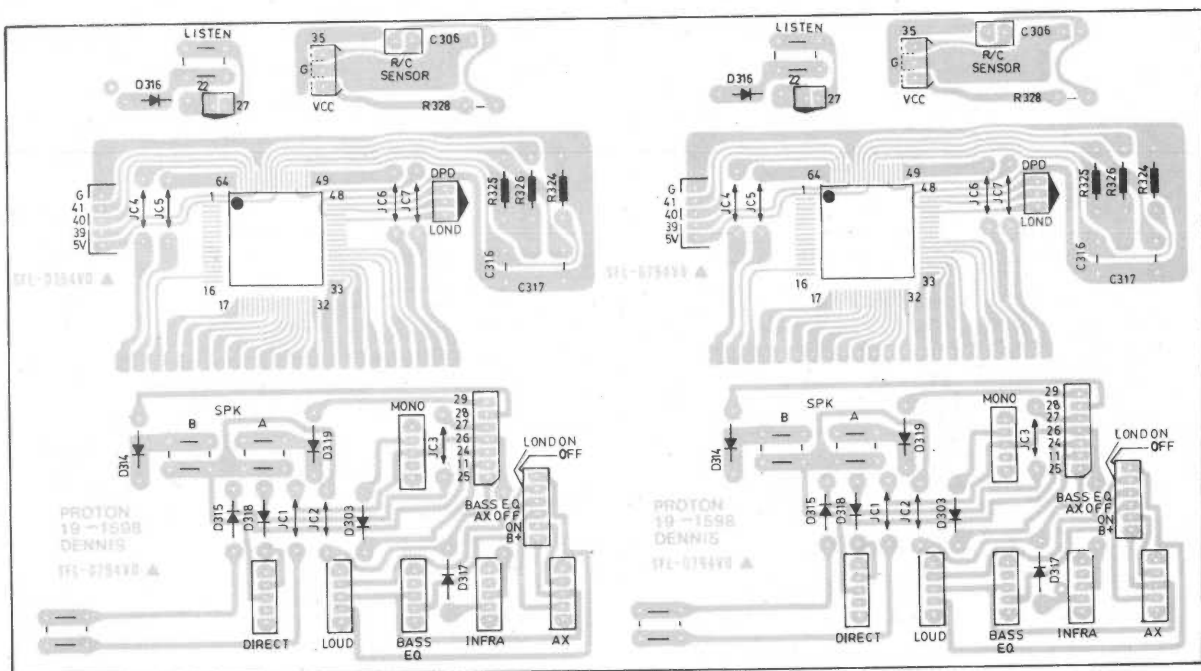
PCB PARTS LOCATIONS (BOTTOM VIEW)



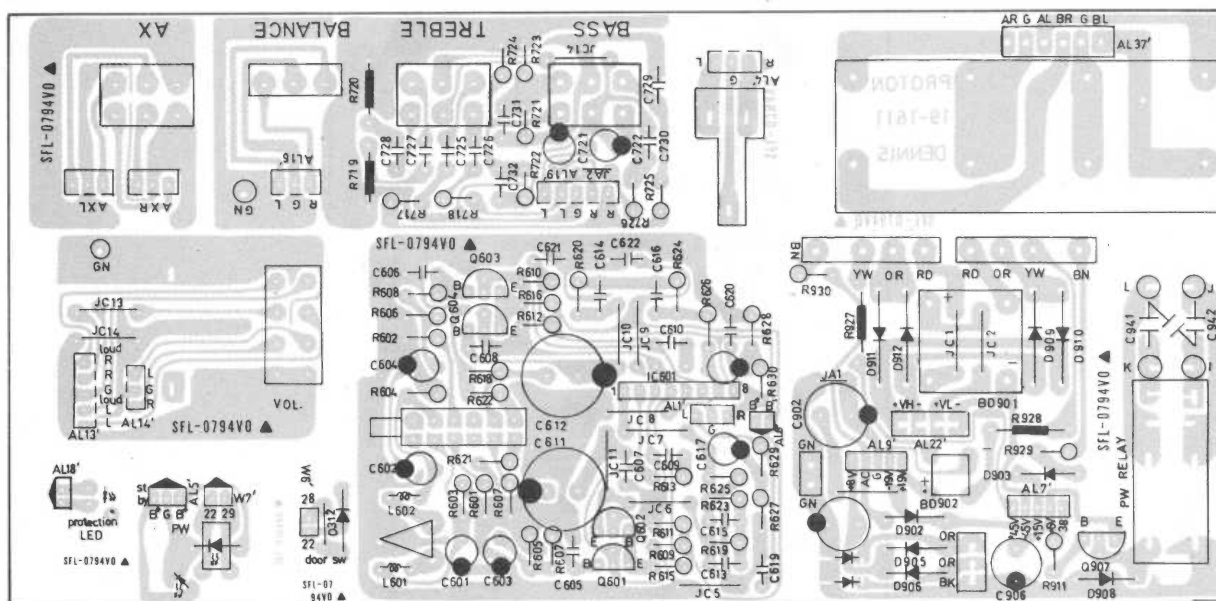
PCB PARTS LOCATIONS (TOP VIEW)



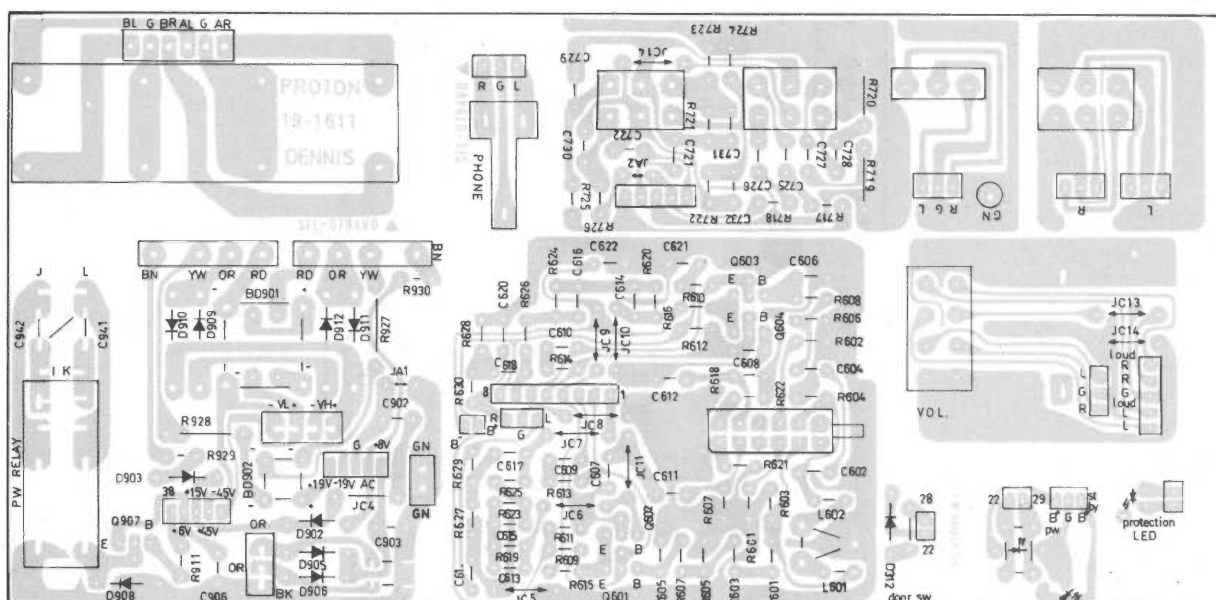
(BOTTOM VIEW)



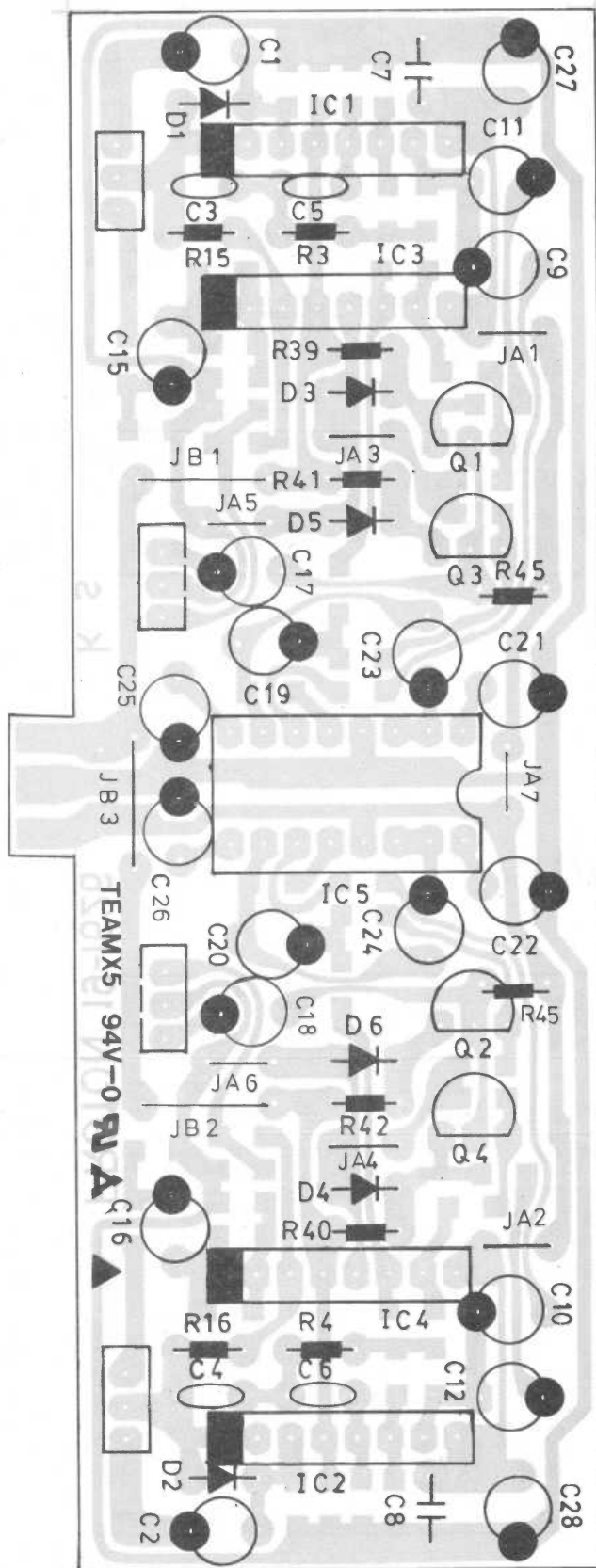
PCB PARTS LOCATIONS (TOP VIEW)



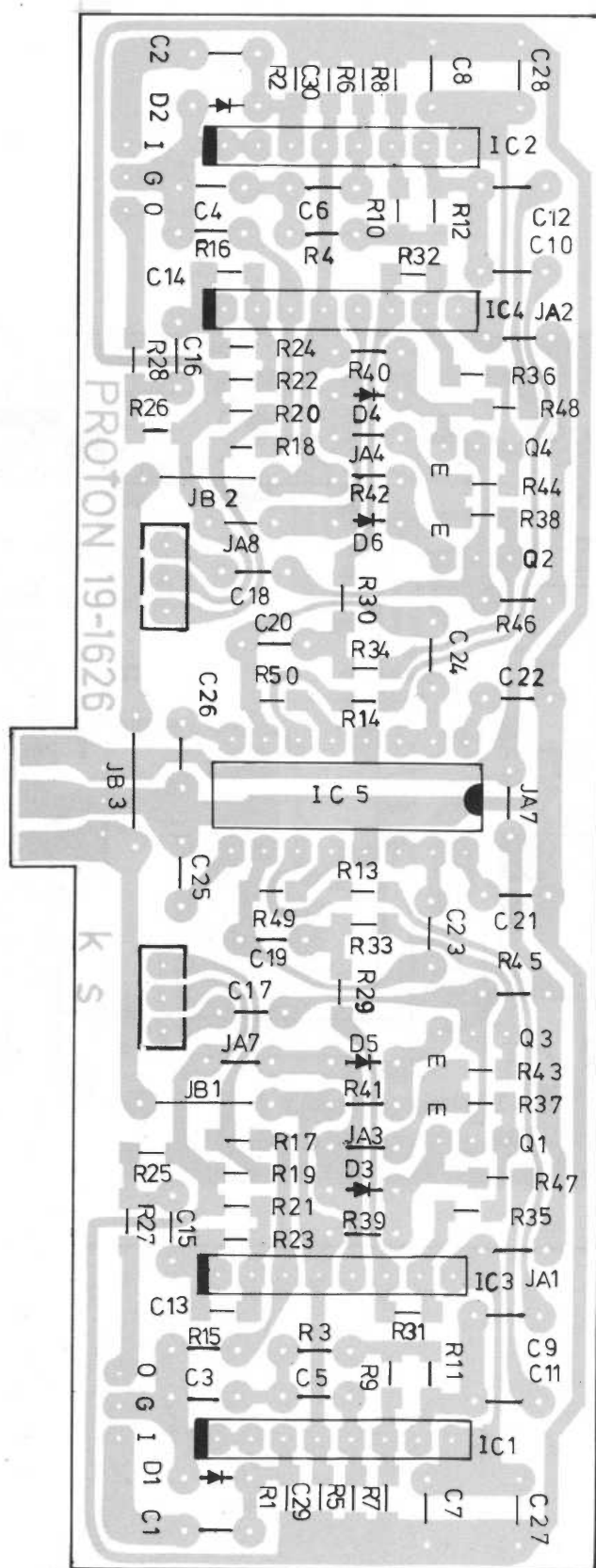
(BOTTOM VIEW)



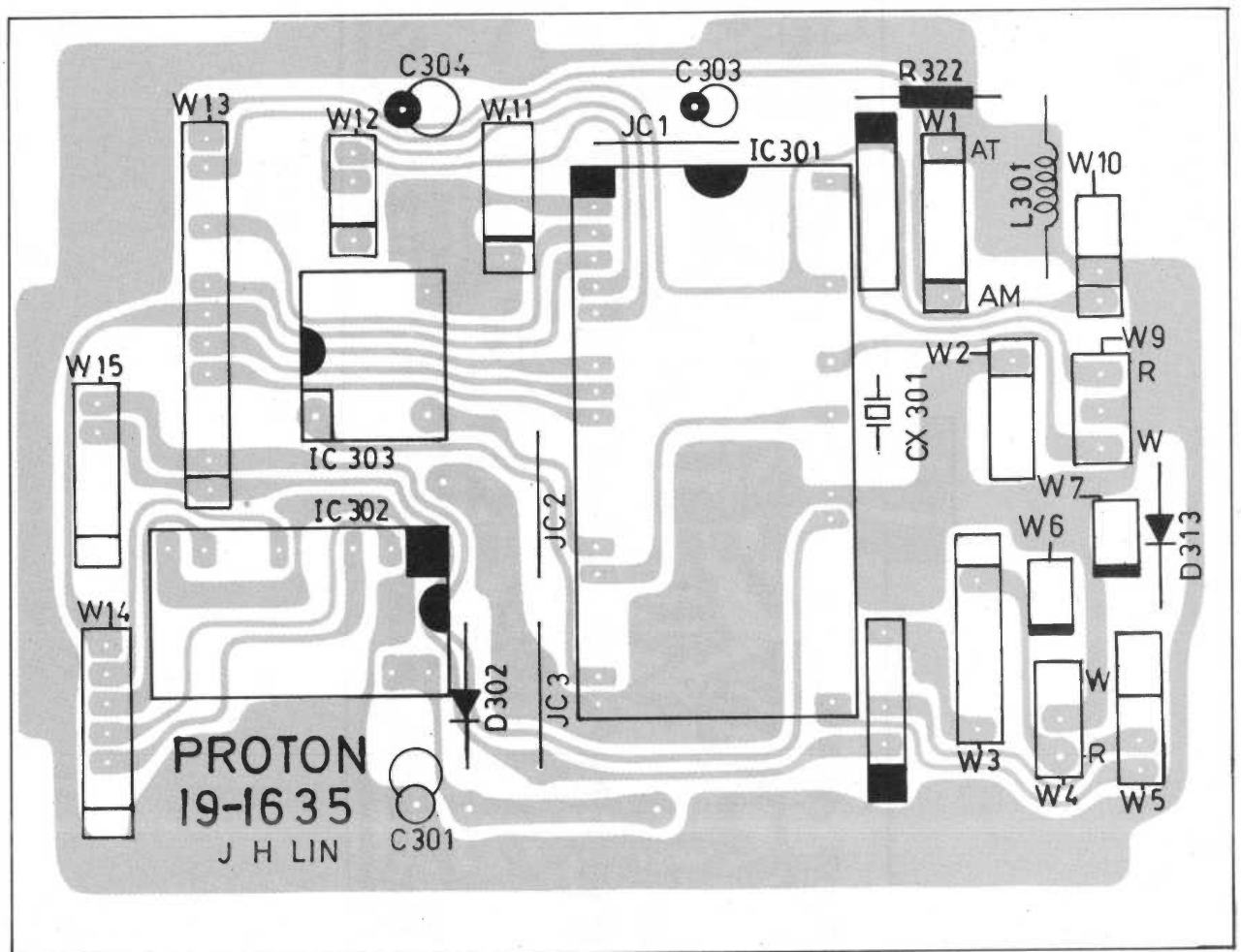
PCB PARTS LOCATIONS (TOP VIEW)



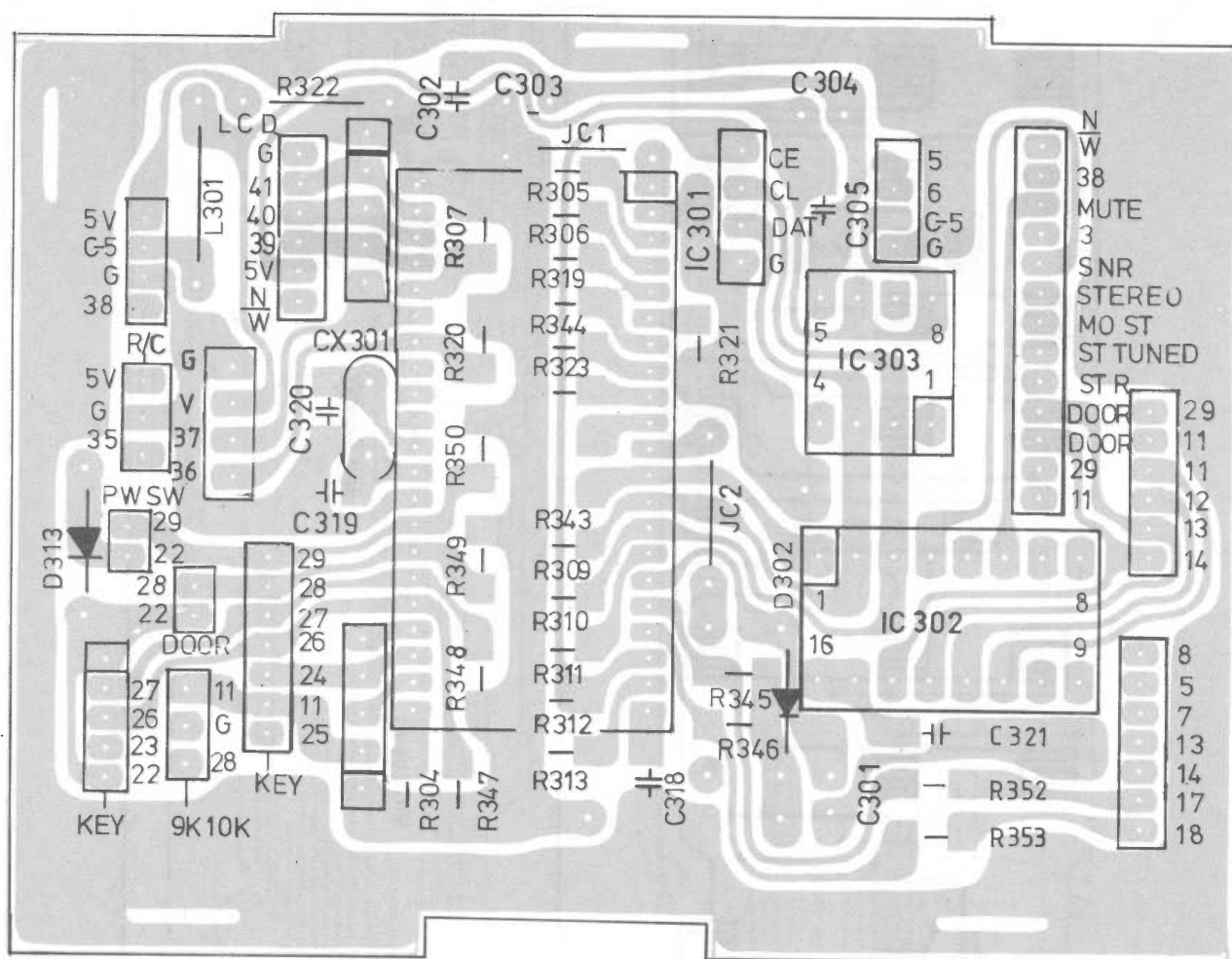
PCB PARTS LOCATIONS (BOTTOM VIEW)



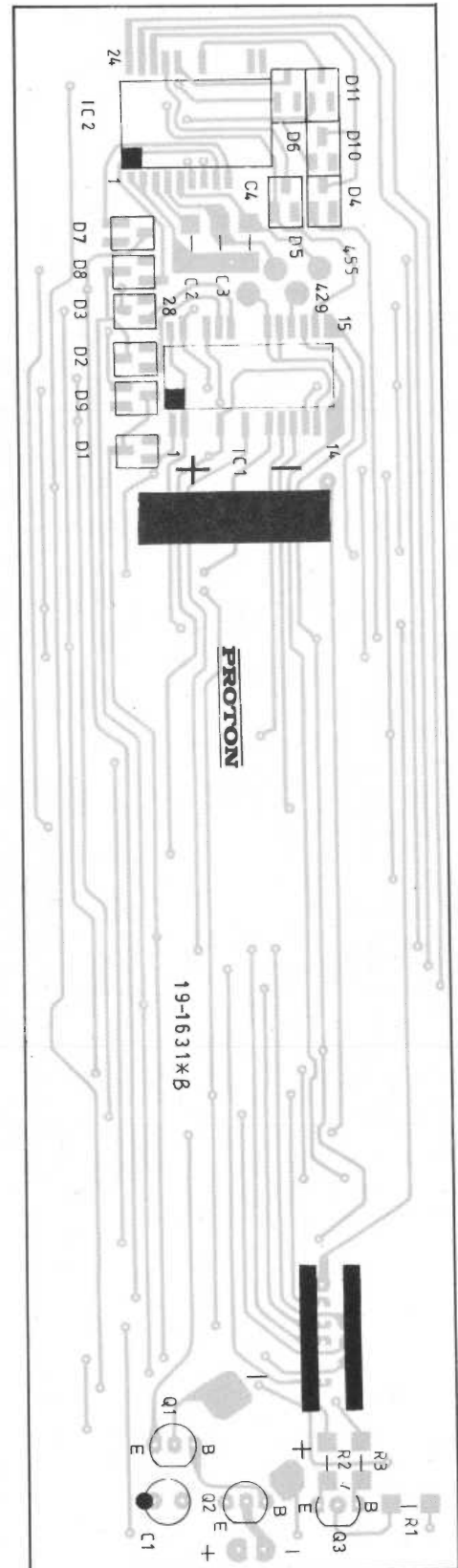
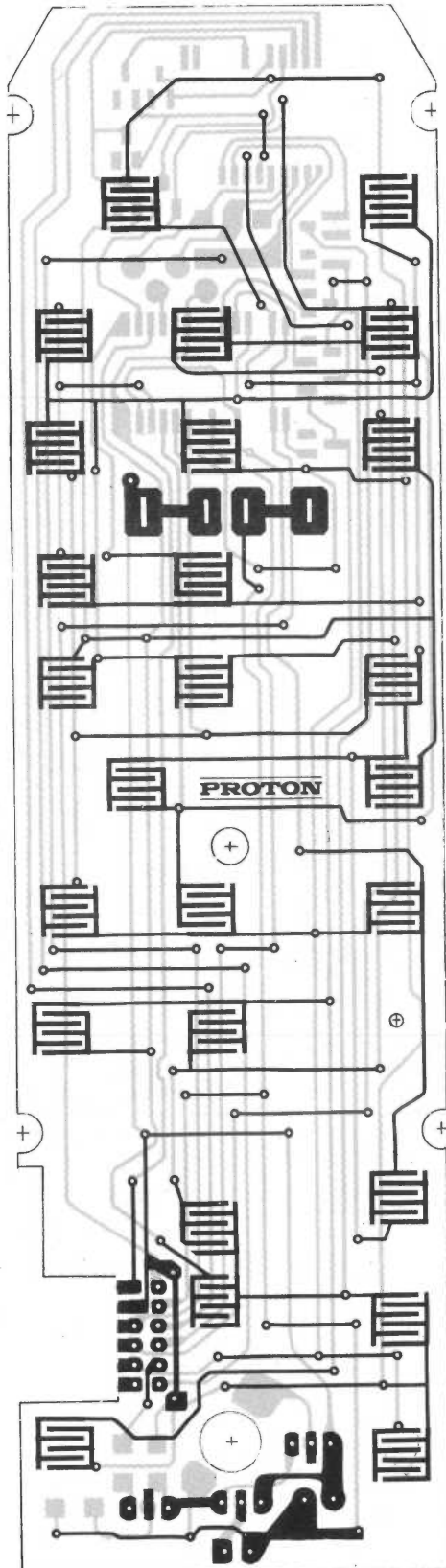
PCB PARTS LOCATIONS (TOP VIEW)



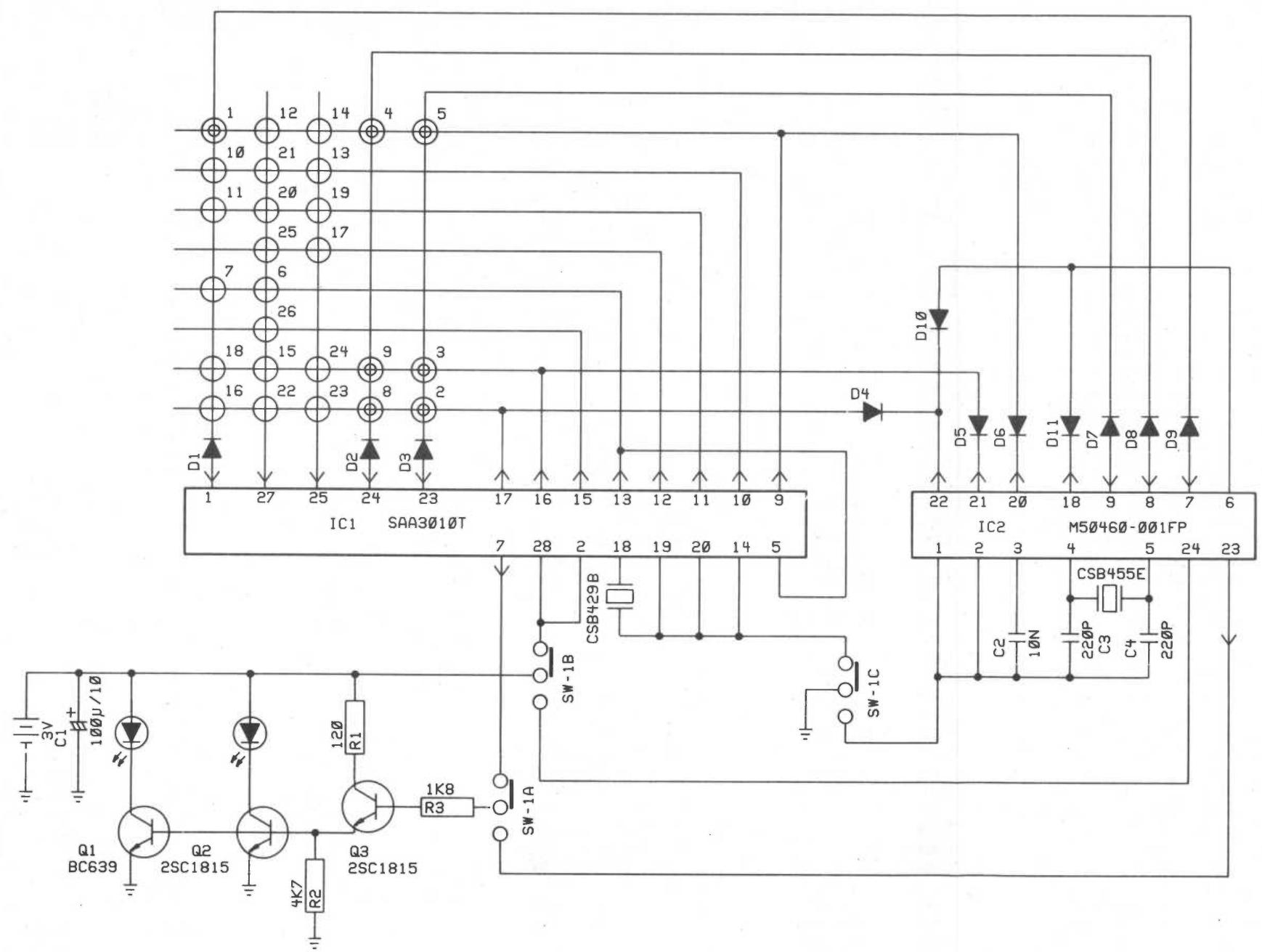
PCB PARTS LOCATIONS (BOTTOM VIEW)



PCB DRAWING OF REMOTE CONTROL (TOP VIEW) (BOTTOM VIEW)




AH-681 REMOTE CONTROL CIRCUIT DEAWING




		AUDIO (600 SERIES)	VIDEO (VT-330)
SYSTEM	1	POWER ON/OFF	POWER ON/OFF
AMPLIFIER SECTION	2	VOLUME UP	VOLUME UP
	3	VOLUME DOWN	VOLUME DOWN
	4	MUTE	MUTE
	5	LISTEN MODE	TV/V1, V2, V3
	6	UNDO	
	7	AM/FM	
TUNER SECTION	8	TUNING UP	CHANNEL UP
	9	TUNING DOWN	CHANNEL DOWN
	10	MEMORY SEARCH UP	
	11	MEMORY SEARCH DOWN	
	12	REC MUTE	
CASSETTE DECK SECTION	13	PLAY(FORWARD)	
	14	PLAY(REVERSE)	
	15	STOP	
	16	PAUSE	
	17	>>	
	18	<<	
	19	RECORD	
	20	PALY	
CD SECTION	21	STOP	
	22	PAUSE	
	23	TRACK UP	
	24	TRACK DOWN	
	25	>>	
	26	<<	

ELECTRICAL PARTS LIST


REF. NO. PARTS NO.		DESCRIPTION
CAPACITORS		
C1	17-2.5ER226M	CAP E R 22U 25V +-20%
C2	17-2.5ER226M	CAP E R 22U 25V +-20%
C3	17-5FR222J	CAP F R 2200P 50V +-5%
C4	17-5FR222J	CAP F R 2200P 50V +-5%
C5	17-5FR222J	CAP F R 2200P 50V +-5%
C6	17-5FR222J	CAP F R 2200P 50V +-5%
C7	17-5KY103M	CAP K Y 0.01U 50V +-20%
C8	17-5KY103M	CAP K Y 0.01U 50V +-20%
C9	17-2.5ER226M	CAP E R 22U 25V +-20%
C10	17-2.5ER226M	CAP E R 22U 25V +-20%
C11	17-2.5ER226M	CAP E R 22U 25V +-20%
C12	17-2.5ER226M	CAP E R 22U 25V +-20%
C13	17-5KY100DCH	CAP K Y 10P 50V +-0.5P
C14	17-5KY100DCH	CAP K Y 10P 50V +-0.5P
C15	17-2.5ER107M	CAP E R 100U 25V +-20%
C16	17-2.5ER107M	CAP E R 100U 25V +-20%
C17	17-2.5ER226M	CAP E R 22U 25V +-20%
C18	17-2.5ER226M	CAP E R 22U 25V +-20%
C19	17-2.5ER226M	CAP E R 22U 25V +-20%
C20	17-2.5ER226M	CAP E R 22U 25V +-20%
C21	17-5ER105M	CAP E R 1U 50V +-20%
C22	17-5ER105M	CAP E R 1U 50V +-20%
C23	17-2.5ER226M	CAP E R 22U 25V +-20%
C24	17-2.5ER226M	CAP E R 22U 25V +-20%
C25	17-5ER105M	CAP E R 1U 50V +-20%
C26	17-5ER105M	CAP E R 1U 50V +-20%
C27	17-2.5ER107M	CAP E R 100U 25V +-20%
C28	17-2.5ER107M	CAP E R 100U 25V +-20%
C29	17-5KY103M	CAP K Y 0.01U 50V +-20%
C30	17-5KY103M	CAP K Y 0.01U 50V +-20%
C31	17-5SR335M	CAP S R 3.3U 50V +-20%
C32	17-5SR335M	2CAP S R 3.3U 50V +-20%
C301	17-1M105M	CAP M 1U 10V +-20%
C306	17-1M107M	CAP M 100U 10V +-20%
C316	17-5DR681K	CAP D R 680P 50V +-10%
C316	17-5ER225M	CAP E R 2.2UP 50V +-20%
C319	17-5KY330JCH	CAP CHIP 33PF50V +-5% CH
C320	17-5KY330JCH	CAP CHIP 33PF50V +-5% CH
C321	17-5KY473M	CAP K Y 0.047U 50V +-20%
C601	17-1ER107M	CAP E R 100UF 10V +-20%
C602	17-1ER107M	CAP E R 100UF 10V +-20%
C603	17-1ER107M	CAP E R 100UF 10V +-20%
C604	17-1ER107M	CAP E R 100UF 10V +-20%
C605	17-5DR221K	CAP D R 220P 50V +-10%
C606	17-5DR221K	CAP D R 220P 50V +-10%
C607	17-5DR470JSL	CAP D R 47P 50V +-5% SL
C608	17-5DR470JSL	CAP D R 47P 50V +-5% SL
C609	17-5DR681K	CAP D R 680P 50V +-10%
C610	17-5DR681K	CAP D R 680P 50V +-10%
C611	17-0.63EF228M	CAP E F 2200U 6.3V +-20%
C612	17-0.63EF228M	CAP E F 2200U 6.3V +-20%
C613	17-5FR822J	CAP F R 8200P 50V +-5%
C614	17-5FR822J	CAP F R 8200P 50V +-5%
C615	17-5FR273J	CAP F R 0.027U 50V +-5%
C616	17-5FR273J	CAP F R 0.027U 50V +-5%
C617	17-5ER106M	CAP E R 10U 50V +-20%
C618	17-5ER106M	CAP E R 10U 50V +-20%
C619	17-5FR152J	CAP F R 1500P 50V +-5%
C620	17-5FR152J	CAP F R 1500P 50V +-5%

Note:The components identified by shading and mark  are critical for safety. Replace only with part number specified.


REF. NO. PARTS NO.		DESCRIPTION
CAPACITORS		
C621	17-5DR473Z	CAP D R 0.047U 50V +-80-20%
C622	17-5DR473Z	CAP D R 0.047U 50V +-80-20%
C623	17-2.5EF227M	CAP E F 220U 25V +-20%
C701	17-5ER475M	CAP E R 4.7U 50V +-20%
C702	17-5ER475M	CAP E R 4.7U 50V +-20%
C703	17-5DR471K	CAP D R 470P 50V +-10%
C704	17-5DR471K	CAP D R 470P 50V +-10%
C705	17-5HR104J	CAP H R 0.1U 50V +-5%
C706	17-5HR104J	CAP H R 0.1U 50V +-5%
C707	17-5ER475M	CAP E R 4.7U 50V +-20%
C708	17-5ER475M	CAP E R 4.7U 50V +-20%
C709	17-5HR104J	CAP H R 0.1U 50V +-5%
C710	17-5HR104J	CAP H R 0.1U 50V +-5%
C711	17-5HR104J	CAP H R 0.1U 50V +-5%
C712	17-5HR104J	CAP H R 0.1U 50V +-5%
C713	17-1ER476M	CAP E R 47U 10V +-20%
C714	17-1ER476M	CAP E R 47U 10V +-20%
C715	17-5HF105J	CAP H F 1U 50V +-5%
C716	17-5HF105J	CAP H F 1U 50V +-5%
C717	17-5HF105J	CAP H F 1U 50V +-5%
C718	17-5HF105J	CAP H F 1U 50V +-5%
C719	17-5DR220JSL	CAP D R 22P 50V +-5% SL
C720	17-5DR220JSL	CAP D R 22P 50V +-5% SL
C721	17-1ER476M	CAP E R 47U 10V +-20%
C722	17-1ER476M	CAP E R 47U 10V +-20%
C723	17-1ER476M	CAP E R 47U 10V +-20%
C724	17-1ER476M	CAP E R 47U 10V +-20%
C725	17-5FR273J	CAP F R 0.027U 50V +-5%
C726	17-5FR273J	CAP F R 0.027U 50V +-5%
C727	17-5HR224J	CAP H R 0.22U 50V +-5%
C728	17-5HR224J	CAP H R 0.22U 50V +-5%
C729	17-5HR154J	CAP H R 0.15U 50V +-5%
C730	17-5HR154J	CAP H R 0.15U 50V +-5%
C731	17-5HF105J	CAP H F 1U 50V +-5%
C732	17-5HF105J	CAP H F 1U 50V +-5%
C733	17-5ER476M	CAP E R 4.7U 50V +-20%
C734	17-5ER475M	CAP E R 4.7U 50V +-20%
C735	17-5ER105M	CAP E R 1U 50V +-20%
C737	17-1ER476M	CAP E R 47U 10V +-20%
C738	17-1ER476M	CAP E R 47U 10V +-20%
C739	17-5SR335M	CAP S R 3.3U 50V +-20%
C740	17-5SR335M	CAP S R 3.3U 50V +-20%
C751	17-5ER475M	CAP E R 4.7U 50V +-20%
C752	17-5ER475M	CAP E R 4.7U 50V +-20%
C753	17-5SR335M	CAP S R 3.3U 50V +-20%
C754	17-5SR335M	CAP S R 3.3U 50V +-20%
C755	17-5SR335M	CAP S R 3.3U 50V +-20%
C756	17-5SR335M	CAP S R 3.3U 50V +-20%
C807	17-5ER475M	CAP E R 4.7U 50V +-20%
C808	17-5ER475M	CAP E R 4.7U 50V +-20%
C811	17-5HR334J	CAP H R 0.33U 50V +-5%
C812	17-5HR334J	CAP H R 0.33U 50V +-5%
C813	17-5DR121J	CAP D R 120P 50V +-5% SL
C814	17-5DR121J	CAP D R 120P 50V +-5% SL
C815	17-1.6SF106M	CAP S F 10U 16V +-20%
C816	17-1.6SF106M	CAP S F 10U 16V +-20%
C817	17-5FR102J	CAP F R 1000P 50V +-5%
C818	17-5FR102J	CAP F R 1000P 50V +-5%
C819	17-5DR221K	CAP D R 220P 50V +-10%

Note:The components identified by shading and mark  are critical for safety. Replace only with part number specified.


REF. NO. PARTS NO.		DESCRIPTION
CAPACITORS		
C820	17-5DR221K	CAP D R 220P 50V +-10%
C821	17-2.5ER476M	CAP E R 47U 25V +-20%
C822	17-2.5ER476M	CAP E R 47U 25V +-20%
C823	17-5FR472J	CAP F R 4700P 50V +-5%
C824	17-5FR472J	CAP F R 4700P 50V +-5%
C825	17-5DR470JSL	CAP D R 47P 50V +-5% SL
C826	17-5DR470JSL	CAP D R 47P 50V +-5% SL
C827	17-5DR3R0CPH	CAP D R 3P 50V +-0.25P PH
C828	17-5DR3R0CPH	CAP D R 3P 50V +-0.25P PH
C829	17-5DR121J	CAP D R 120P 50V +-5% SL
C830	17-5DR121J	CAP D R 120P 50V +-5% SL
C831	17-5DR470JSL	CAP D R 47P 50V +-5% SL
C832	17-5DR470JSL	CAP D R 47P 50V +-5% SL
C833	17-5DF104Z	CAP D F 0.1U 50V +-80-20%
C834	17-5DF104Z	CAP D F 0.1U 50V +-80-20%
C835	17-10DF104M	CAP D F 0.1U 100V +-20%
C836	17-10DF104M	CAP D F 0.1U 100V +-20%
C837	17-10DF104M	CAP D F 0.1U 100V +-20%
C838	17-10DF104M	CAP D F 0.1U 100V +-20%
C839	17-5FR223J	CAP F R 0.022U 50V +-5%
C840	17-5FR223J	CAP F R 0.022U 50V +-5%
C841	17-5DF104Z	CAP D F 0.1U 50V +-80-20%
C842	17-5DF104Z	CAP D F 0.1U 50V +-80-20%
C843	17-5DF104Z	CAP D F 0.1U 50V +-80-20%
C844	17-5DF104Z	CAP D F 0.1U 50V +-80-20%
C845	17-5FR272J	CAP F R 2700P 50V +-5%
C846	17-5FR272J	CAP F R 2700P 50V +-5%
C847	17-5FR272J	CAP F R 2700P 50V +-5%
C848	17-5FR272J	CAP F R 2700P 50V +-5%
C849	17-5FR272J	CAP F R 2700P 50V +-5%
C850	17-5FR272J	CAP F R 2700P 50V +-5%
C851	17-5ER476M	CAP E R 47U 50V +-20%
C852	17-5ER476M	CAP E R 47U 50V +-20%
C853	17-5ER476M	CAP E R 47U 50V +-20%
C854	17-5ER476M	CAP E R 47U 50V +-20%
C855	17-5FR272J	CAP F R 2700P 50V +-5%
C856	17-5FR272J	CAP F R 2700P 50V +-5%
C857	17-5ER106M	CAP E R 10U 50V +-20%
C858	17-3.5ER476M	CAP E R 47U 35V +-20%
C859	17-3.5ER476M	CAP E R 47U 35V +-20%
C860	17-2.5ER226M	CAP E R 22U 25V +-20%
C861	17-10DF104M	CAP D F 0.1U 100V +-20%
C862	17-10DF104M	CAP D F 0.1U 100V +-20%
C863	17-10DF104M	CAP D F 0.1U 100V +-20%
C864	17-10DF104M	CAP D F 0.1U 100V +-20%
C865	17-5ER105M	CAP E R 1U 50V +-5%
C866	17-5ER105M	CAP E R 1U 50V +-5%
C901	17-5ER105M	CAP E R 1U 50V +-20%
C902	17-2.5EF477M	CAP E F 470U 25V +-20%
C903	17-1.6EF337M	CAP E F 330U 16V +-20%
C904	17-1ER107M	CAP E R 100U 10V +-20%
C906	17-1ER227M	CAP E R 220U 10V +-20%
C907	17-6.3P109M	CAP P 10000U 63V +-20%
C908	17-6.3P109M	CAP P 10000U 63V +-20%
C909	17-5ER106M	CAP E R 10U 50V +-20%
C910	17-5ER106M	CAP E R 10U 50V +-20%
C911	17-5ER106M	CAP E R 10U 50V +-20%
C912	17-5ER106M	CAP E R 10U 50V +-20%
C913	17-2.5ER476M	CAP E R 47U 25V +-20%

Note:The components identified by shading and mark  are critical for safety. Replace only with part number specified.


REF. NO. PARTS NO.		DESCRIPTION
APACITORS		
C914	17-2.5ER476M	CAP E R 47U 25V +-20%
C915	17-2.5EF477M	CAP E F 470U 25V +-20%
C916	17-2.5EF477M	CAP E F 470U 25V +-20%
C917	17-2.5ER227M	CAP E R 220U 25V +-20%
C919	17-2.5EF227M	CAP E F 220U 25V +-20%
C920	17-2.5EF227M	CAP E F 220U 25V +-20%
C921	17-10P688M-1	CAP P 6800U 100V +-20%
C922	17-10P688M-1	CAP P 6800U 100V +-20%
C923	17-10P688M-1	CAP P 6800U 100V +-20%
C924	17-10P688M-1	CAP P 6800U 100V +-20%
C925	17-10EG477M	CAP E G 470U 100V +-20%
C926	17-10EG477M	CAP E G 470U 100V +-20%
C927	17-3.5ER476M	CAP E R 47U 35V +-20%
C928	17-3.5ER476M	CAP E R 47U 35V +-20%
C929	17-10EF476M	CAP E F 47U 100V +-20%
C930	17-10EF476M	CAP E F 47U 100V +-20%
C931	17-1ER476M	CAP E R 47U 10V -20%
C932	17-1ER476M	CAP E R 47U 10V -20%
DIODES		
D1	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D2	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D3	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D4	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D5	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D6	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D302	30-1152TA	DIO 1N4148 HSS 100V 150MA
D303	30-1152TA	DIO 1N4148 HSS 100V 150MA
D312	30-1152TA	DIO 1N4148 HSS 100V 150MA
D313	30-1152TA	DIO 1N4148 HSS 100V 150MA
D314	30-1152TA	DIO 1N4148 HSS 100V 150MA
D315	30-1152TA	DIO 1N4148 HSS 100V 150MA
D316	30-1152TA	DIO 1N4148 HSS 100V 150MA
D317	30-1152TA	DIO 1N4148 HSS 100V 150MA
D318	30-1152TA	DIO 1N4148 HSS 100V 150MA
D319	30-1152TA	DIO 1N4148 HSS 100V 150MA
D601	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D602	30-1152TA	DIO 1N4148 HSS 100V 150 MA
D701	30-1152TA	DIO 1N4148 HSS 100V 150MA
D702	30-1152TA	DIO 1N4148 HSS 100V 150MA
D703	30-1152TA	DIO 1N4148 HSS 100V 150MA
D704	30-1152TA	DIO 1N4148 HSS 100V 150MA
D705	30-1152TA	DIO 1N4148 HSS 100V 150MA
D707	30-1152TA	DIO 1N4148 HSS 100V 150MA
D709	30-1152TA	DIO 1N4148 HSS 100V 150MA
D710	30-1152TA	DIO 1N4148 HSS 100V 150MA
D711	30-1152TA	DIO 1N4148 HSS 100V 150MA
D712	30-1152TA	DIO 1N4148 HSS 100V 150MA
D713	30-1152TA	DIO 1N4148 HSS 100V 150MA
D801	30-1152TA	DIO 1N4148 HSS 100V 150MA
D802	30-1152TA	DIO 1N4148 HSS 100V 150MA
D803	30-1152TA	DIO 1N4148 HSS 100V 150MA
D804	30-1152TA	DIO 1N4148 HSS 100V 150MA
D805	30-1248	DIO FR303 RET 200V 3.0A
D806	30-1248	DIO FR303 RET 200V 3.0A
D807	30-1248	DIO FR303 RET 200V 3.0A
D808	30-1248	DIO FR303 RET 200V 3.0A
D809	30-1152TA	DIO 1N4148 HSS 100V 150MA
D810	30-1152TA	DIO 1N4148 HSS 100V 150MA
D811	30-1269	DIO RGP10G RET 200V 3A

Note:The components identified by shading and mark  are critical for safety. Replace only with part number specified.


REF. NO. PARTS NO.		DESCRIPTION	
DIODES			
D812	30-1269	DIO RGP10G	RET 200V 3A
D813	30-1269	DIO RGP10G	RET 200V 3A
D814	30-1269	DIO RGP10G	RET 200V 3A
D815	30-1002A	DIO 1N4002	RET 100V 1.0A
D816	30-1002A	DIO 1N4002	RET 100V 1.0A
D819	30-1152-1TA	DIO 1N4531	HSS 100V 150MA
D901	30-1152-1TA	DIO 1N4531	HSS 100V 150MA
D902	30-1002A	DIO 1N4002	RET 100V 1.0A
D903	30-1002A	DIO 1N4002	RET 100V 1.0A
D905	30-1152TA	DIO 1N4148	HSS 100V 150MA
D906	30-1002A	DIO 1N4002	RET 100V 1.0A
D907	30-1002A	DIO 1N4002	RET 100V 1.0A
D908	30-1002A	DIO 1N4002	RET 100V 1.0A
D909	30-1248	DIO FR303	RET 200V 3.0A
D910	30-1248	DIO FR303	RET 200V 3.0A
D911	30-1248	DIO FR303	RET 200V 3.0A
D912	30-1248	DIO FR303	RET 200V 3.0A
D913	30-1002A	DIO 1N4002	RET 100V 1.0A
D914	30-1002A	DIO 1N4002	RET 100V 1.0A
D927	30-1152-1TA	DIO 1N4531	HSS 100V 150MA
BD901	30-1037	DIO KBPC802	BRG 200V 8A
BD902	30-1040	DIO W02	BRG 200V 1.5A
ZENER DIODES			
ZD701	30-1259	DIO RD5.6EB3	ZNR 1/2W 5.8V
ZD702	30-1259	DIO RD5.6EB3	ZNR 1/2W 5.8V
ZD703	30-1259	DIO RD5.6EB3	ZNR 1/2W 5.8V
ZD704	30-1259	DIO RD5.6EB3	ZNR 1/2W 5.8V
ZD706	30-1063-1TA	DIO HZ9C-1TD	ZNR 1/2W 9.1V
ZD707	30-1063-1TA	DIO HZ9C-1TD	ZNR 1/2W 9.1V
ZD801	30-1041-1TA	DIO HZ22-2TD	ZNR 1/2W 22.1V
ZD802	30-1041-1TA	DIO HZ22-2TD	ZNR 1/2W 22.1V
ZD803	30-1050TA	DIO RD6.8EN3	ZNR 1/2W 6.6V
ZD804	30-1259	DIO RD5.6EB3	ZNR 1/2W 5.8V
ZD901	30-1050TA	DIO RD6.8EN3	ZNR 1/2W 6.6V
ZD902	30-1263	DIO HZ12B-1	ZNR 1/2W 12.6V
ZD903	30-1050TA	DIO RD6.8EN3	ZNR 1/2W 6.6V
ZD904	30-1038-1TA	DIO HZ18-2TD	ZNR 1/2W 17.9V
ZD905	30-1038-1TA	DIO HZ18-2TD	ZNR 1/2W 17.9V
ZD908	30-1041-1TA	DIO HZ22-2TD	ZNR 1/2W 22.1V
ZD909	30-1041-1TA	DIO HZ22-2TD	ZNR 1/2W 22.1V
ZD910	30-1168-1	DIO HZ6C2	ZNR 1/2W 6.1V
ZD911	30-1259	DIO RD5.6EB3	ZNR 1/2W 5.8V
INTEGRATED CIRCUITS			
IC1	30-3247	M5219L	OP PREAMP D 8
IC2	30-3247	M5219L	OP PREAMP D 8
IC3	30-3247	M5219L	OP PREAMP D 8
IC4	30-3247	M5219L	OP PREAMP D 8
IC5	30-3560	NE571	EXCITER 16
IC301	30-3582	TMP47C440AN-1014	UC 4BIT 42
IC302	30-3586	TC4094BP	BUS REGISTER 16
IC304	30-3357	BA6208	MOTOR DVR 9
IC306	30-3583	IC LC7582	LCD DRIVER 64P
IC601	30-3247	M5219L	OP PREAMP D 8
IC602	30-3439	TC9164N	FUNCTION 28
IC603	30-3439	TC9164N	FUNCTION 28
IC701	30-3357	BA6208	MOTOR DVR 9
IC702	30-3247	M5219L	OP PREAMP D 8
IC703	30-3247	M5219L	OP PREAMP D 8

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REF. NO. PARTS NO.		DESCRIPTION	
INTEGRATED CIRCUITS			
IC704	30-3592	LC4966	SW Q CMOS 16
IC705	30-3592	LC4966	SW Q CMOS 16
IC706	30-3592	LC4966	SW Q CMOS 16
IC707	30-3592	LC4966	SW Q CMOS 16
IC708	30-3247	M5219L	OP PREAMP D 8
IC801	30-3247	M5219L	OP PREAMP D 8
IC802	30-3247	M5219L	OP PREAMP D 8
IC803	30-3247	M5219L	OP PREAMP D 8
IC804	30-3187	TA7317P	OP PROTECTOR 9
COILS			
L601	29-1175	COIL 3.7MH + 20-10%	
L602	29-1175	COIL 3.7MH + 20-10%	
L801	29-1147	COIL AIR 1.2*X6.9(12.6)DX30T	
L802	29-1147	COIL AIR 1.2*X6.9(12.6)DX30T	
TRANSISTORS			
Q1	30-2324	TR 2SD400E/F N	1A 25V
Q2	30-2324	TR 2SD400E/F N	1A 25V
Q3	30-2324	TR 2SD400E/F N	1A 25V
Q4	30-2324	TR 2SD400E/F N	1A 25V
Q304	30-2096-2TR	TR BC556B	P 100MA 65V
Q305	30-2090-2TR	TR BC546B	N 200MA 65V
Q601	30-2349	TR 2SC2602G/H N	200MA 70V
Q602	30-2349	TR 2SC2602G/H N	200MA 70V
Q603	30-2349	TR 2SC2602G/H N	200MA 70V
Q604	30-2349	TR 2SC2602G/H N	200MA 70V
Q701	30-2096-2TR	TR BC556B	P 100MA 65V
Q702	30-2265	FET J111	N 35V 20MA
Q703	30-2090-2TR	TR BC546B	N 200MA 65V
Q704	30-2452	TR 2SC3068	N 300MA 25V
Q705	30-2096-2TR	TR BC556B	P 100MA 65V
Q706	30-2452	TR 2SC3068	N 300MA 25V
Q707	30-2452	TR 2SC3068	N 300MA 25V
Q708	30-2452	TR 2SC3068	N 300MA 25V
Q709	30-2096-2TR	TR BC556B	P 100MA 65V
Q710	30-2096-2TR	TR BC556B	P 100MA 65V
Q711	30-2096-2TR	TR BC556B	P 100MA 65V
Q801	30-2404	TR 2SC2259N	5MA 100V
Q802	30-2404	TR 2SC2259N	50MA 100V
Q803	30-2259	TR 2SB649AC	P 1.5A 160V
Q804	30-2259	TR 2SB649AC	P 1.5A 160V
Q805	30-2259	TR 2SB649AC	P 1.5A 160V
Q806	30-2259	TR 2SB649AC	P 1.5A 160V
Q807	30-2260	TR 2SD669AC	N 1.5A 160V
Q808	30-2260	TR 2SD669AC	N 1.5A 160V
Q809	30-2260	TR 2SD669AC	N 1.5A 160V
Q810	30-2260	TR 2SD669AC	N 1.5A 160V
Q811	30-2260	TR 2SD669AC	N 1.5A 160V
Q812	30-2260	TR 2SD669AC	N 1.5A 160V
Q813	30-2259	TR 2SB649AC	P 1.5A 160V
Q814	30-2259	TR 2SB649AC	P 1.5A 160V
Q815	30-2305	TR 2SC2921	N 15A 160V
Q816	30-2305	TR 2SC2921	N 15A 160V
Q817	30-2304	TR 2SA1215	P 15A 160V
Q818	30-2304	TR 2SA1215	P 15A 160V
Q819	30-2399-1	TR 2SC3519A	N 15A 180V
Q820	30-2399-1	TR 2SC3519A	N 15A 180V
Q821	30-2398-1	TR 2SA1386A	P 15A 180V
Q822	30-2398-1	TR 2SA1386A	P 15A 180V
Q823	30-2260	TR 2SD669AC	N 1.5A 160V

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REF. NO. PARTS NO.		DESCRIPTION
TRANSISTORS		
Q824	30-2260	TR 2SD669AC N 1.5A 160V
Q825	30-2259	TR 2SB649AC P 1.5A 160V
Q826	30-2259	TR 2SB649AC P 1.5A 160V
Q827	30-2353TR	TR BC639 N 1.5A 80V
Q828	30-2353TR	TR BC639 N 1.5A 80V
Q829	30-2354TR	TR BC640 P 1.5A 80V
Q830	30-2354TR	TR BC640 P 1.5A 80V
Q831	30-2237	TR BF422 N 20MA 250V
Q832	30-2237	TR BF422 N 20MA 250V
Q833	30-2238	TR BF423 P 20MA 250V
Q834	30-2090-2TR	TR BC546B N 200MA 65V
Q835	30-2090-2TR	TR BC546B N 200MA 65V
Q837	30-2096-2TR	TR BC556B P 100MA 65V
Q901	30-2260	TR 2SD669AC N 1.5A 160V
Q902	30-2353TR	TR BC639 N 1.5A 80V
Q903	30-2090-2TR	TR BC546B N 200MA 65V
Q904	30-2096-2TR	TR BC556B P 100MA 65V
Q905	30-3251	IC L78M15 RGLTR 15V 3P
Q906	30-3471	IC L7915 RGL TR 15V 3P
Q907	30-2354TR	TR BC640 P 1.5A 80V
Q908	30-2096-2TR	TR BC556B P 100MA 65V
Q909	30-2260	TR 2SD669AC N 1.5A 160V
Q910	30-2090-2TR	TR BC546B N 200MA 65V
Q911	30-2090-2TR	TR BC546B N 200MA 65V
Q912	30-2096-2TR	TR BC556B P 100MA 65V
Q913	30-2096-2TR	TR BC556B P 100MA 65V
Q914	30-2259	TR 2SB649AC P 1.5A 160V
Q915	30-2090-2TR	TR BC546B N 200MA 65V
RESISTORS		
R1	16-1/8TY104J	RES T Y 100K 1/8W +5%
R2	16-1/8TY104J	RES T Y 100K 1/8W +5%
R3	16-1/8CA223J	RES C A 22K 1/8W +5%
R4	16-1/8CA223J	RES C A 22K 1/8W +5%
R5	16-1/8TY222J	RES T Y 22K 1/8W +5%
R6	16-1/8TY223J	RES T Y 22K 1/8W +5%
R7	16-1/8TY102J	RES T Y 1K 1/8W +5%
R8	16-1/8TY102J	RES T Y 1K 1/8W +5%
R9	16-1/8TY561J	RES T Y 560 1/8W +5%
R10	16-1/8TY561J	RES T Y 560 1/8W +5%
R11	16-1/8TY222J	RES T Y 2K2 1/8W +5%
R12	16-1/8TY222J	RES T Y 2K2 1/8W +5%
R13	16-1/8TY104J	RES T Y 100K 1/8W +5%
R14	16-1/8TY104J	RES T Y 100K 1/8W +5%
R15	16-1/8CA104J	RES C A 100K 1/8W +5%
R16	16-1/8CA104J	RES C A 100K 1/8W +5%
R17	16-1/8TY104J	RES T Y 100K 1/8W +5%
R18	16-1/8TY104J	RES T Y 100K 1/8W +5%
R19	16-1/8TY103J	RES T Y 10K 1/8W +5%
R20	16-1/8TY103J	RES T Y 10K 1/8W +5%
R21	16-1/8TY104J	RES T Y 100K 1/8W +5%
R22	16-1/8TY104J	RES T Y 100K 1/8W +5%
R23	16-1/8TY104J	RES T Y 100K 1/8W +5%
R24	16-1/8TY104J	RES T Y 100K 1/8W +5%
R25	16-1/8TY103J	RES T Y 10K 1/8W +5%
R26	16-1/8TY103J	RES T Y 10K 1/8W +5%
R27	16-1/8TY151J	RES T Y 150 1/8W +5%
R28	16-1/8TY151J	RES T Y 150 1/8W +5%
R29	16-1/8TY103J	RES T Y 10K 1/8W +5%
R30	16-1/8TY103J	RES T Y 10K 1/8W +5%

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REF. NO. PARTS NO.		DESCRIPTION
RESISTORS		
R31	16-1/8TY103J	RES T Y 10K 1/8W +5%
R32	16-1/8TY103J	RES T Y 10K 1/8W +5%
R33	16-1/8TY561J	RES T Y 560 1/8W +5%
R34	16-1/8TY561J	RES T Y 560 1/8W +5%
R35	16-1/8TY561J	RES T Y 560 1/8W +5%
R36	16-1/8TY561J	RES T Y 560 1/8W +5%
R37	16-1/8TY220J	RES T Y 22 1/8W +5%
R38	16-1/8TY220J	RES T Y 22 1/8W +5%
R39	16-1/8CA472J	RES C A 4K7 1/8W +5%
R40	16-1/8CA472J	RES C A 4K7 1/8W +5%
R41	16-1/8CA472J	RES C A 4K7 1/8W +5%
R42	16-1/8CA472J	RES C A 4K7 1/8W +5%
R43	16-1/8TY220J	RES T Y 22 1/8W +5%
R44	16-1/8TY220J	RES T Y 22 1/8W +5%
R45	16-1/8CA222J	RES C A 2K2 1/8W +5%
R46	16-1/4CA 222J	RES C A 2K2 1/8W +5%
R47	16-1/8TY472J	RES T Y 4K7 1/8W +5%
R48	16-1/8TY472J	RES T Y 4K7 1/8W +5%
R49	16-1/8TY104J	RES T Y 100K 1/8W +5%
R50	16-1/8TY104J	RES T Y 100K 1/8W +5%
R51	16-1/8CA103J	RES C A 10K 1/8W +5%
R52	16-1/8CA103J	RES C A 10K 1/8W +5%
R53	16-1/8CA103J	RES C A 10K 1/8W +5%
R54	16-1/8CA103J	RES C A 10K 1/8W +5%
R301	16-1/8TY104J	RES T Y 10K 1/8W +5%
R302	16-1/8TY104J	RES T Y 10K 1/8W +5%
R303	16-1/8TY104J	RES T Y 10K 1/8W +5%
R304	16-1/8TY103J	RES T Y 10K 1/8W +5%
R305	16-1/8TY103J	RES T Y 10K 1/8W +5%
R306	16-1/8TY103J	RES T Y 10K 1/8W +5%
R307	16-1/8TY103J	RES T Y 10K 1/8W +5%
R308	16-1/8TY103J	RES T Y 10K 1/8W +5%
R309	16-1/8TY103J	RES T Y 10K 1/8W +5%
R310	16-1/8TY103J	RES T Y 10K 1/8W +5%
R311	16-1/8TY103J	RES T Y 10K 1/8W +5%
R312	16-1/8TY103J	RES T Y 10K 1/8W +5%
R313	16-1/8TY103J	RES T Y 10K 1/8W +5%
R319	16-1/8TY103J	RES T Y 10K 1/8W +5%
R320	16-1/8TY103J	RES T Y 10K 1/8W +5%
R321	16-1/8TY103J	RES T Y 10K 1/8W +5%
R322	16-1/8TY103J	RES T Y 10K 1/8W +5%
R323	16-1/8TY103J	RES T Y 10K 1/8W +5%
R324	16-1/4CA563J	RES C A 56K 1/4W +5%
R325	16-1/4CA104J	RES C A 100K 1/4W +5%
R326	16-1/4CA471J	RES C A 470 1/4W +5%
R328	16-1/4CR220J	RES C R 22 1/4W +5%
R330	16-1/4CR4R7J	RES C R 4.7 1/4W +5%
R331	16-1/4CA103J	RES C A 10K 1/4W +5%
R332	16-1/4CA224J	RES C A 220K 1/4W +5%
R343	16-1/8TY103J	RES T Y 10K 1/8W +5%
R344	16-1/8TY103J	RES T Y 10K 1/8W +5%
R345	16-1/8TY103J	RES T Y 10K 1/8W +5%
R346	16-1/8TY103J	RES T Y 10K 1/8W +5%
R347	16-1/8TY103J	RES T Y 10K 1/8W +5%
R348	16-1/8TY103J	RES T Y 10K 1/8W +5%
R349	16-1/8TY103J	RES T Y 10K 1/8W +5%
R350	16-1/8TY103J	RES T Y 10K 1/8W +5%
R351	16-1/4CR331J	RES C R 330 1/4W +5%
R352	16-1/8TY122J	RES T Y 1K2 1/8W +5%

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
REF. NO.	PARTS NO.	DESCRIPTION
RESISTORS		
R353	16-1/8TY122J	RES T Y 1K2 1/8W +5%
R601	16-1/8CA101J	RES C A 100 1/8W +5%
R602	16-1/8CA101J	RES C A 100 1/8W +5%
R603	16-1/8CA104J	RES C A 100K 1/8W +5%
R604	16-1/8CA104J	RES C A 100K 1/8W +5%
R605	16-1/8CA104J	RES C A 100K 1/8W +5%
R606	16-1/8CA104J	RES C A 100K 1/8W +5%
R607	16-1/8CA470J	RES C A 47 1/8W +5%
R608	16-1/8CA470J	RES C A 47 1/8W +5%
R609	16-1/8CA562J	RES C A 5K6 1/8W +5%
R610	16-1/8CA562J	RES C A 5K6 1/8W +5%
R611	16-1/8CA562J	RES C A 5K6 1/8W +5%
R612	16-1/8CA562J	RES C A 5K6 1/8W +5%
R613	16-1/8CA331J	RES C A 330 1/8W +5%
R614	16-1/8CA331J	RES C A 330 1/8W +5%
R615	16-1/8CA103J	RES C A 10K 1/8W +5%
R616	16-1/8CA103J	RES C A 10K 1/8W +5%
R617	16-1/8CA221J	RES C A 220 1/8W +5%
R618	16-1/8CA221J	RES C A 220 1/8W +5%
R619	16-1/8CA103J	RES C A 10K 1/8W +5%
R620	16-1/8CA103J	RES C A 10K 1/8W +5%
R621	16-1/8CA180J	RES C A 18 1/8W +5%
R622	16-1/8CA180J	RES C A 18 1/8W +5%
R623	16-1/8CA124J	RES C A 120K 1/8W +5%
R624	16-1/8CA124J	RES C A 120K 1/8W +5%
R625	16-1/8CA181J	RES C A 180 1/8W +5%
R626	16-1/8CA181J	RES C A 180 1/8W +5%
R627	16-1/8CA473J	RES C A 47K 1/8W +5%
R628	16-1/8CA473J	RES C A 47K 1/8W +5%
R629	16-1/8CA681J	RES C A 680 1/8W +5%
R630	16-1/8CA681J	RES C A 680 1/8W +5%
R633	16-1/4CR391J	RES C R 390 1/4W +5%
R634	16-1/4CR391J	RES C R 390 1/4W +5%
R635	16-1/4CR391J	RES C R 390 1/4W +5%
R636	16-1/4CR391J	RES C R 390 1/4W +5%
R637	16-1/4CR391J	RES C R 390 1/4W +5%
R638	16-1/4CR391J	RES C R 390 1/4W +5%
R639	16-1/4CR391J	RES C R 390 1/4W +5%
R640	16-1/4CR391J	RES C R 390 1/4W +5%
R641	16-1/4CR391J	RES C R 390 1/4W +5%
R642	16-1/4CR391J	RES C R 390 1/4W +5%
R643	16-1/4CR391J	RES C R 390 1/4W +5%
R644	16-1/4CR391J	RES C R 390 1/4W +5%
R645	16-1/4CR391J	RES C R 390 1/4W +5%
R646	16-1/4CR391J	RES C R 390 1/4W +5%
R647	16-1/4CA102J	RES C A 1K 1/4W +5%
R648	16-1/4CA102J	RES C A 1K 1/4W +5%
R701	16-1/4CA181J	RES C A 180 1/4W +5%
R702	16-1/4CA181J	RES C A 180 1/4W +5%
R703	16-1/4CA562J	RES C A 5K6 1/4W +5%
R704	16-1/4CR562J	RES C R 5K6 1/4W +5%
R705	16-1/4CA104J	RES C A 100K 1/4W +5%
R706	16-1/4CA104J	RES C A 100K 1/4W +5%
R707	16-1/4CR473J	RES C R 47K 1/4W +5%
R708	16-1/4CR473J	RES C R 47K 1/4W +5%
R709	16-1/4CA224J	RES C A 220K 1/4W +5%
R710	16-1/4CA224J	RES C A 220K 1/4W +5%
R711	16-1/4CR471J	RES C R 470 1/4W +5%
R712	16-1/4CR471J	RES C R 470 1/4W +5%

Note: The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.


REF. NO.	PARTS NO.	DESCRIPTION
RESISTORS		
R713	16-1/4CR683J	RES C R 68K 1/4W +5%
R714	16-1/4CA683J	RES C A 68K 1/4W +5%
R715	16-1/4CR683J	RES C R 68K 1/4W +5%
R716	16-1/4CR683J	RES C R 68K 1/4W +5%
R717	16-1/8CA681J	RES C A 680 1/8W +5%
R718	16-1/8CA681J	RES C A 680 1/8W +5%
R719	16-1/4CA121J	RES C A 120 1/4W +5%
R720	16-1/4CA121J	RES C A 120 1/4W +5%
R721	16-1/8CA392J	RES C A 3K9 1/8W +5%
R722	16-1/8CA392J	RES C A 3K9 1/8W +5%
R723	16-1/8CA391J	RES C A 390 1/8W +5%
R724	16-1/8CA391J	RES C A 390 1/8W +5%
R725	16-1/8CA272J	RES C A 2K7 1/8W +5%
R726	16-1/8CA272J	RES C A 2K7 1/8W +5%
R727	16-1/4CA681J	RES C A 680 1/4W +5%
R728	16-1/4CA681J	RES C A 680 1/4W +5%
R729	16-1/4CR472J	RES C R 4K7 1/4W +5%
R730	16-1/4CR472J	RES C R 4K7 1/4W +5%
R731	16-1/4CR102J	RES C R 1K 1/4W +5%
R732	16-1/4CA104J	RES C A 100K 1/4W +5%
R733	16-1/4CA472J	RES C A 4K7 1/4W +5%
R734	16-1/4CA680J	RES C A 68 1/4W +5%
R735	16-1/4CA153J	RES C A 15K 1/4W +5%
R736	16-1/4CR153J	RES C R 15K 1/4W +5%
R737	16-1/4CR680J	RES C R 68 1/4W +5%
R738	16-1/4CR102J	RES C R 1K 1/4W +5%
R739	16-1/4CA104J	RES C A 100K 1/4W +5%
R740	16-1/4CR473J	RES C R 47K 1/4W +5%
R741	16-1/4CA472J	RES C A 4K7 1/4W +5%
R742	16-1/4CA104J	RES C A 100K 1/4W +5%
R743	16-1/4CA104J	RES C A 100K 1/4W +5%
R744	16-1/4CA104J	RES C A 100K 1/4W +5%
R745	16-1/8CA104J	RES C A 100K 1/8W +5%
R746	16-1/8CA104J	RES C A 100K 1/8W +5%
R749	16-1/8CA104J	RES C A 100K 1/8W +5%
R750	16-1/4CA563J	RES C A 56K 1/4W +5%
R751	16-1/8CA104J	RES C A 100K 1/8W +5%
R752	16-1/4CR563J	RES C R 56K 1/4W +5%
R753	16-1/8CA104J	RES C A 100K 1/8W +5%
R754	16-1/4CA103J	RES C A 10K 1/4W +5%
R755	16-1/4CR562J	RES C R 5K6 1/4W +5%
R756	16-1/4CR101J	RES C R 100 1/4W +5%
R757	16-1/4CR473J	RES C R 47K 1/4W +5%
R758	16-1/8CA104J	RES C A 100K 1/8W +5%
R759	16-1/8CR563J	RES C R 56K 1/8W +5%
R760	16-1/4CR562J	RES C R 5K6 1/4W +5%
R761	16-1/4CA561J	RES C A 560 1/4W +5%
R762	16-1/4CA561J	RES C A 560 1/4W +5%
R763	16-1/4CR473J	RES C R 47K 1/4W +5%
R764	16-1/4CR102J	RES C R 1K 1/4W +5%
R765	16-1/4CR153J	RES C R 15K 1/4W +5%
R766	16-1/4CA153J	RES C A 15K 1/4W +5%
R771	16-1/4CR332J	RES C R 3K3 1/4W +5%
R772	16-1/4CR332J	RES C R 3K3 1/4W +5%
R773	16-1/4CA561J	RES C A 560 1/4W +5%
R774	16-1/4CA561J	RES C A 560 1/4W +5%
R775	16-1/4CA104J	RES C A 100K 1/4W +5%
R776	16-1/8CA103J	RES C A 10K 1/8W +5%
R779	16-1/8CA104J	RES C R 100K 1/8W +5%

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REF. NO.	PARTS NO.	DESCRIPTION
RESISTORS		
R780	16-1/8CA104J	RES C R 100K 1/8W +-5%
R781	16-1/4CA104J	RES C A 100K 1/4W +-5%
R782	16-1/8CA104J	RES C A 100K 1/8W +-5%
R785	16-1/8CA104J	RES C A 100K 1/8W +-5%
R786	16-1/8CA104J	RES C A 100K 1/8W +-5%
R787	16-1/8CA104J	RES C A 100K 1/8W +-5%
R788	16-1/8CA104J	RES C A 100K 1/8W +-5%
R789	16-1/8CA104J	RES C A 100K 1/8W +-5%
R801	16-1/4CA391J	RES C A 390 1/4W +-5%
R802	16-1/4CA391J	RES C A 390 1/4W +-5%
R803	16-1/4CR102J	RES C R 1K 1/4W +-5%
R804	16-1/4CR102J	RES C R 1K 1/4W +-5%
R805	16-1/4CR562J	RES C R 5K6 1/4W +-5%
R806	16-1/4CR562J	RES C R 5K6 1/4W +-5%
R807	16-1/4CR223J	RES C R 22K 1/4W +-5%
R808	16-1/4CA223J	RES C A 22K 1/4W +-5%
R809	16-1/4CA223J	RES C A 22K 1/4W +-5%
R810	16-1/4CA223J	RES C A 22K 1/4W +-5%
R813	16-1/8CA103J	RES C A 10K 1/8W +-5%
R814	16-1/8CA103J	RES C A 10K 1/8W +-5%
R815	16-1/4CA184J	RES C A 180K 1/4W +-5%
R816	16-1/4CA184J	RES C A 180K 1/4W +-5%
R817	16-1/4CA184J	RES C A 180K 1/4W +-5%
R818	16-1/4CA184J	RES C A 180K 1/4W +-5%
R819	16-1/4CA331J	RES C A 330 1/4W +-5%
R820	16-1/4CA331J	RES C A 330 1/4W +-5%
R821	16-1/4CR102J	RES C R 1K 1/4W +-5%
R822	16-1/4CR102J	RES C R 1K 1/4W +-5%
R823	16-1/4CR152J	RES C R 1K5 1/4W +-5%
R824	16-1/4CR152J	RES C R 1K5 1/4W +-5%
R825	16-1/4CR391J	RES C R 390 1/4W +-5%
R826	16-1/4CA391J	RES C A 390 1/4W +-5%
R827	16-1/4CA562J	RES C A 5K6 1/4W +-5%
R828	16-1/4CA562J	RES C A 5K6 1/4W +-5%
R829	16-1/4CR472J	RES C R 4K7 1/4W +-5%
R830	16-1/4CR472J	RES C R 4K7 1/4W +-5%
R831	16-1/4CR152J	RES C R 1K5 1/4W +-5%
R832	16-1/4CR152J	RES C R 1K5 1/4W +-5%
R833	16-1/4CR821J	RES C R 820 1/4W +-5%
R834	16-1/4CR821J	RES C R 820 1/4W +-5%
R835	16-1/4CA223J	RES C A 22K 1/4W +-5%
R836	16-1/4CA223J	RES C A 22K 1/4W +-5%
R837	16-1/4CA680J	RES C A 68 1/4W +-5%
R838	16-1/4CA680J	RES C A 68 1/4W +-5%
R839	16-1/4CA680J	RES C A 68 1/4W +-5%
R840	16-1/4CA680J	RES C A 68 1/4W +-5%
R841	16-1/4AS151J	RES A S 150 1/4W +-5%
R842	16-1/4AS151J	RES A S 150 1/4W +-5%
R843	16-2AN682J	RES A N 6K8 2W +-5%
R844	16-2AN682J	RES A N 6K8 2W +-5%
R845	16-1/4CA182J	RES C A 1K8 1/4W +-5%
R846	16-1/4CA182J	RES C A 1K8 1/4W +-5%
R847	16-1045	RES M 1/4W 750 OHM +-10%
R848	16-1045	RES M 1/4W 750 OHM +-10%
R849	16-1/4AP181J	RES A P 180 1/4W +-5%
R850	16-1/4AP181J	RES A P 180 1/4W +-5%
R851	16-1044	RES C M 7W 0.1 OHM -10%
R852	16-1044	RES C M 7W 0.1 OHM -10%
R853	16-1044	RES C M 7W 0.1 OHM -10%

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REF. NO.	PARTS NO.	DESCRIPTION
RESISTORS		
R854	16-1044	RES C M 7W 0.1 OHM -10%
R855	16-1/4CA122J	RES C A 1K2 1/4W +-5%
R856	16-1/4CA122J	RES C A 1K2 1/4W +-5%
R857	16-1AN100J	RES A N 10 1W +-5%
R858	16-1AN100J	RES A N 10 1W +-5%
R859	16-1/4CR273J	RES C R 27K 1/4W +-5%
R860	16-1/4CR273J	RES C R 27K 1/4W +-5%
R861	16-1/4CR184J	RES C R 180K 1/4W +-5%
R862	16-1/4CA184J	RES C A 180K 1/4W +-5%
R863	16-1/4CA184J	RES C A 180K 1/4W +-5%
R864	16-1/4CA184J	RES C A 180K 1/4W +-5%
R865	16-1/4CA101J	RES C A 100 1/4W +-5%
R866	16-1/4CA101J	RES C A 100 1/4W +-5%
R867	16-1/4CA563J	RES C A 56K 1/4W +-5%
R868	16-1/4CA563J	RES C A 56K 1/4W +-5%
R869	16-1/4CA101J	RES C A 100 1/4W +-5%
R870	16-1/4CA101J	RES C A 100 1/4W +-5%
R871	16-1/4CA563J	RES C A 56K 1/4W +-5%
R872	16-1/4CA563J	RES C A 56K 1/4W +-5%
R873	16-1/4CA333J	RES C A 33K 1/4W +-5%
R874	16-1/4CA333J	RES C A 33K 1/4W +-5%
R875	16-1/8CA103J	RES C A 10K 1/8W +-5%
R876	16-1/4CR473J	RES C R 47K 1/4W +-5%
R878	16-1/4CR563J	RES C R 56K 1/4W +-5%
R879	16-1/4CA563J	RES C A 56K 1/4W +-5%
R880	16-1/4CR562J	RES C R 5K6 1/4W +-5%
R881	16-1/4CR562J	RES C R 5K6 1/4W +-5%
R882	16-1/4CA153J	RES C A 15K 1/4W +-5%
R883	16-1/4CA183J	RES C A 18K 1/4W +-5%
R884	16-1/4CA473J	RES C A 47K 1/4W +-5%
R885	16-1/4CA153J	RES C A 15K 1/4W +-5%
R886	16-1/4CR224J	RES C R 220K 1/4W +-5%
R887	16-1AN820J	RES A N 82 1W +-5%
R888	16-1/4CA472J	RES C A 4K7 1/4W +-5%
R889	16-1/4CR472J	RES C R 4K7 1/4W +-5%
R890	16-1AN3R3J	RES A N 3.3 1W +-5%
R891	16-1AN3R3J	RES A N 3.3 1W +-5%
R892	16-1/4CR391J	RES C R 390 1/4W +-5%
R893	16-1/4CR391J	RES C R 390 1/4W +-5%
R895	16-1/4CR820J	RES C R 82 1/4W +-5%
R896	16-1/4CR820J	RES C R 82 1/4W +-5%
R897	16-1AN431J	RES A N 430 1W +-5%
R898	16-1AN431J	RES A N 430 1W +-5%
R901	16-1/4CR153J	RES C R 15K 1/4W +-5%
R902	16-1AN431J	RES A N 430 1W +-5%
R903	16-1/4CR181J	RES C R 180 1/4W +-5%
R906	16-1/4CA332J	RES C A 3K3 1/4W +-5%
R907	16-1/4CA332J	RES C A 3K3 1/4W +-5%
R908	16-1AN330J	RES A N 33 1W +-5%
R909	16-1AS560J	RES A S 56 1W +-5%
R910	16-1/4CR102J	RES C R 1K 1/4W +-5%
R911	16-1/8CA472J	RES C A 4K7 1/8W +-5%
R912	16-1/4CA102J	RES C A 1K 1/4W +-5%
R913	16-1/4CA820J	RES C A 82 1/4W +-5%
R914	16-1/4CA273J	RES C A 27K 1/4W +-5%
R915	16-1/4CA221J	RES C A 220 1/4W +-5%
R916	16-1/4CR102J	RES C R 1K 1/4W +-5%
R917	16-1/4CA681J	RES C A 680 1/4W +-5%
R918	16-1/4CA562J	RES C A 5K6 1/4W +-5%

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REF. NO.	PARTS NO.	DESCRIPTION
RESISTORS		
R919	16-1/4CA562J	RES C A 5K6 1/4W + -5%
R920	16-1/4CA273J	RES C A 27K 1/4W + -5%
R921	16-1/4CR123J	RES C R 12K 1/4W + -5%
R922	16-1/4CR123J	RES C R 12K 1/4W + -5%
R923	16-1/4CA273J	RES C A 27K 1/4W + -5%
R924	16-1/4CA123J	RES C A 12K 1/4W + -5%
R925	16-1/4CA123J	RES C A 12K 1/4W + -5%
R927	16-1AN3R3J	RES A N 3.3 1W + -5%
R928	16-1AN3R3J	RES A N 3.3 1W + -5%
R929	16-1AP2R2J	RES MO SMH 1W 2.2Ω + -5%
R930	16-1AP2R2J	RES MO SMH 1W 2.2Ω + -5%
R976	16-1/8CA103J	RES C A 10K 1/8W + -5%
R977	16-1/8CA103J	RES C A 10K 1/8W + -5%
R978	16-1/8CA103J	RES C A 10K 1/8W + -5%
R979	16-1/4CR102J	RES C R 1K 1/4W + -5%
R991	16-1/4CA391J	RES C A 390 1/4W + -5%
R992	16-1/4CA391J	RES C A 390 1/4W + -5%
VARIABLE RESISTORS		
VR1	29-4333	VR 16φ 10KBX2 PIK20
VR701	29-4302	VR RK16B12MO
VR702	29-4331	VR 16φ 10KCX2 PIK20
VR703	29-4331	VR 16φ 10KCX2 PIK20
VR704	29-4332	VR 16φ 20KWX1 PIK20
VR801	VR03-F08501B	SEMI-FIX 8* 500B FLAT W/SHAFT
VR802	VR03-F08501B	SEMI-FIX 8* 500B FLAT W/SHAFT
MIX	29-4333	VR 16φ 10KBX2 PIK20
SWITCHES		
	31-1363	SW TACH SKHHAB2510-FL
	31-1402	SW SLIDE SLVA12MP-04
AX	31-1402-1	SW SLIDE SLVA12MP-04
SPK B	31-1363	SW TACH SKHHAB2510-FL
INFRA	31-1402	SW SLIDE SLVA12MP-04
LOND	31-1402	SW SLIDE SLVA12MP-04
MONO	31-1402	SW SLIDE SLVA12MP-04
REC	31-1363	SW TACH SKHHAB2510-FL
SPK A	31-1363	SW TACH SKHHAB2510-FL
SW1	31-1275 MC/MM	SW PUSH SPJ242NE01-FL
MISCELLANEOUS		
TB1	16-2002	THERMAL PROTECTOR T110AR1.1
TB2	16-2002	THERMAL PROTECTOR T110AR1.1
CX301	30-4022	XTAL 4.194304MHZ
PROTECTION		
LED	30-1365	LED RD CIR 2φ LTL-1204-1
LCD	31-3041	LCD FTD-6C31PZJK-CU
LAMP	31-2057	LAMP 12V 3.4W
VOLUME		
LED x 3	30-1367	LED GN CHP 1.5x3.0 LTC-907KK
STANDBY		
LED	30-1369*A	LED GN CIR 2φ LTL-1233A
PW SW WITH		
LED	31-1404	SW TACH SKHJFB GREEN
RELAY A/		
RELAY B	35-3037	RELAY 2P 5A 24VDC JD2-DC24V
REMOTE		
Control	RCP-01	PREAMP BX-1407
	29-2193-1	XFMR PW EI-86 115V UL/CSA

Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

REF. NO.	PARTS NO.	DESCRIPTION
MISCELLANEOUS		
	29-2193A-1	XFMR PW EI-86 115V UL/CSA
	29-2193-5	XFMR PW EI-86 115/230V DNSF
	29-2193A-5	XFMR PW EI-86 115/230V DNSF
	35-3056	RELAY UL CSA 5A
	35-3059-1	RELAY 6V 5A 2 POLE VDE
	32-15001W	FUSE 0.3x32MM UL/CSA SLOW 5A
	32-12501S	FUSE 5x20mm Semko Slow 2.5A
	32-15001S	FUSE 5x20MM Semko SLOW 5A
	30-3583	IC LC7582 LCD DRIVER 64P
MINI PHONE		
JACKx2	12-2259	MINI PHONE JACK 3.5MM
	12-2078	PHONE JACK
	31-138-0	SW VOLTAGE SELECTOR
	12-2228	AC INLET
AH-681 REMOTE CONTROL		
R1	16-1/8TY221J	RES T Y 220 1/8W + -5%
R2	16-1/8TY102J	RES T Y 1K 1/8W + -5%
R3	16-1/8TY182J	RES T Y 1K8 1/8W + -5%
C1	17-1.6M107M	CAP M 100UF 16V + -20%
C2	17-5KY103M	CAP K Y 0.01UF 50V + -20%
C3	17-5KY221JCH	CAP CHIP 220PF 50V + -5% CH
C4	17-5KY221JCH	CAP CHIP 220PF 50V + -5% CH
D1	30-7004	DIO BAS 16 SW 75V 6NS
D2	30-7004	DIO BAS 16 SW 75V 6NS
D3	30-7004	DIO BAS 16 SW 75V 6NS
D4	30-7004	DIO BAS 16 SW 75V 6NS
D5	30-7004	DIO BAS 16 SW 75V 6NS
D6	30-7004	DIO BAS 16 SW 75V 6NS
D7	30-7004	DIO BAS 16 SW 75V 6NS
D8	30-7004	DIO BAS 16 SW 75V 6NS
D9	30-7004	DIO BAS 16 SW 75V 6NS
D10	30-7004	DIO BAS 16 SW 75V 6NS
D11	30-7004	DIO BAS 16 SW 75V 6NS
Q1	30-2353	TR BC639
Q2	30-2353	TR BC639
Q3	30-2156	TR 2SC1815GR
	29-3174	CR CSB455E
	29-3231	CR CSB429B
	30-1157	DIO CQY89A IRT 215MW
	30-1369	LED GN CIR 2φ
IC1	30-3593	IC SAA3010T R/C XMER
IC2	30-3478	IC M50460-001FP R/C XMER
SW	31-1409	SW SLIDE SS-215FCB042C

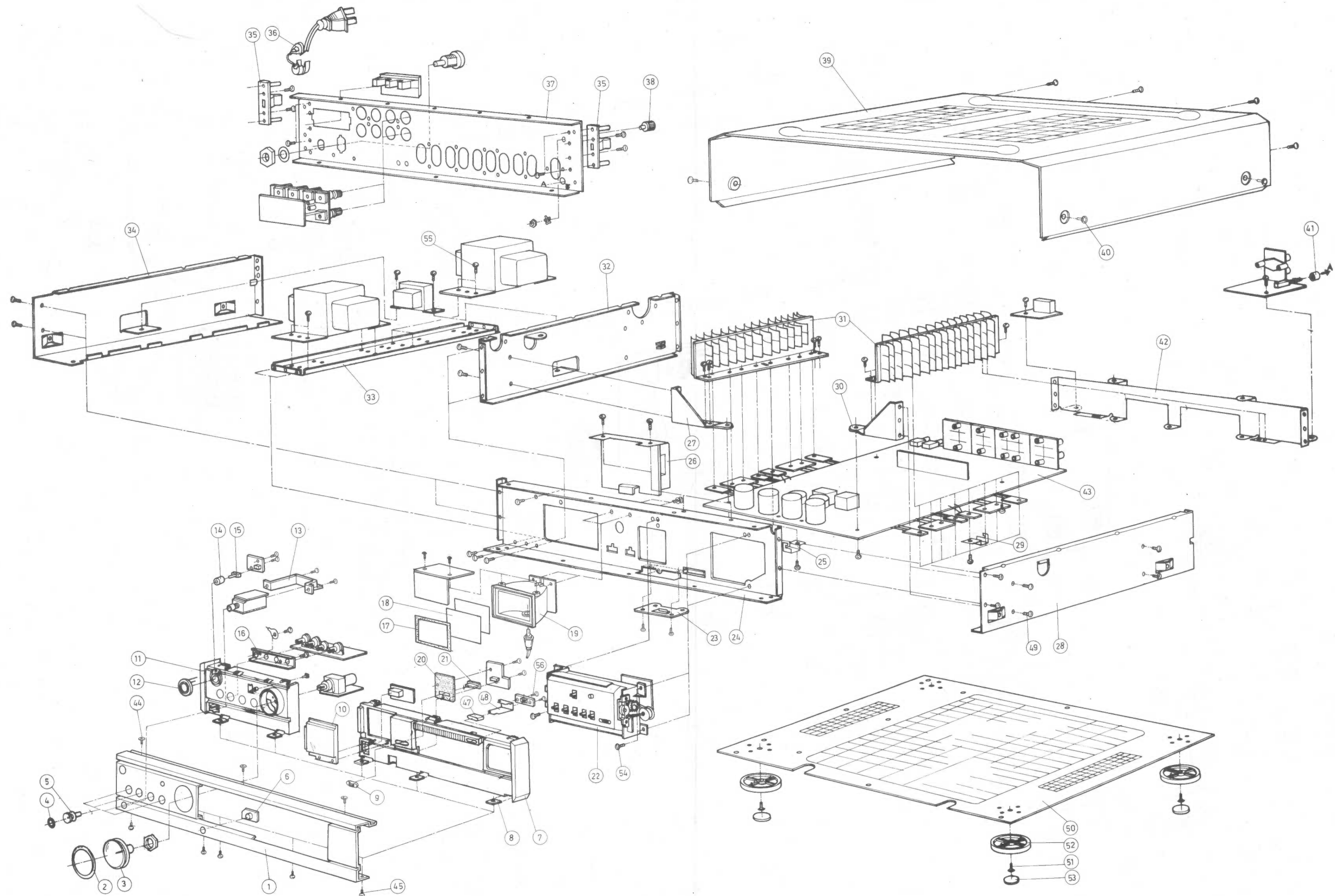
Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

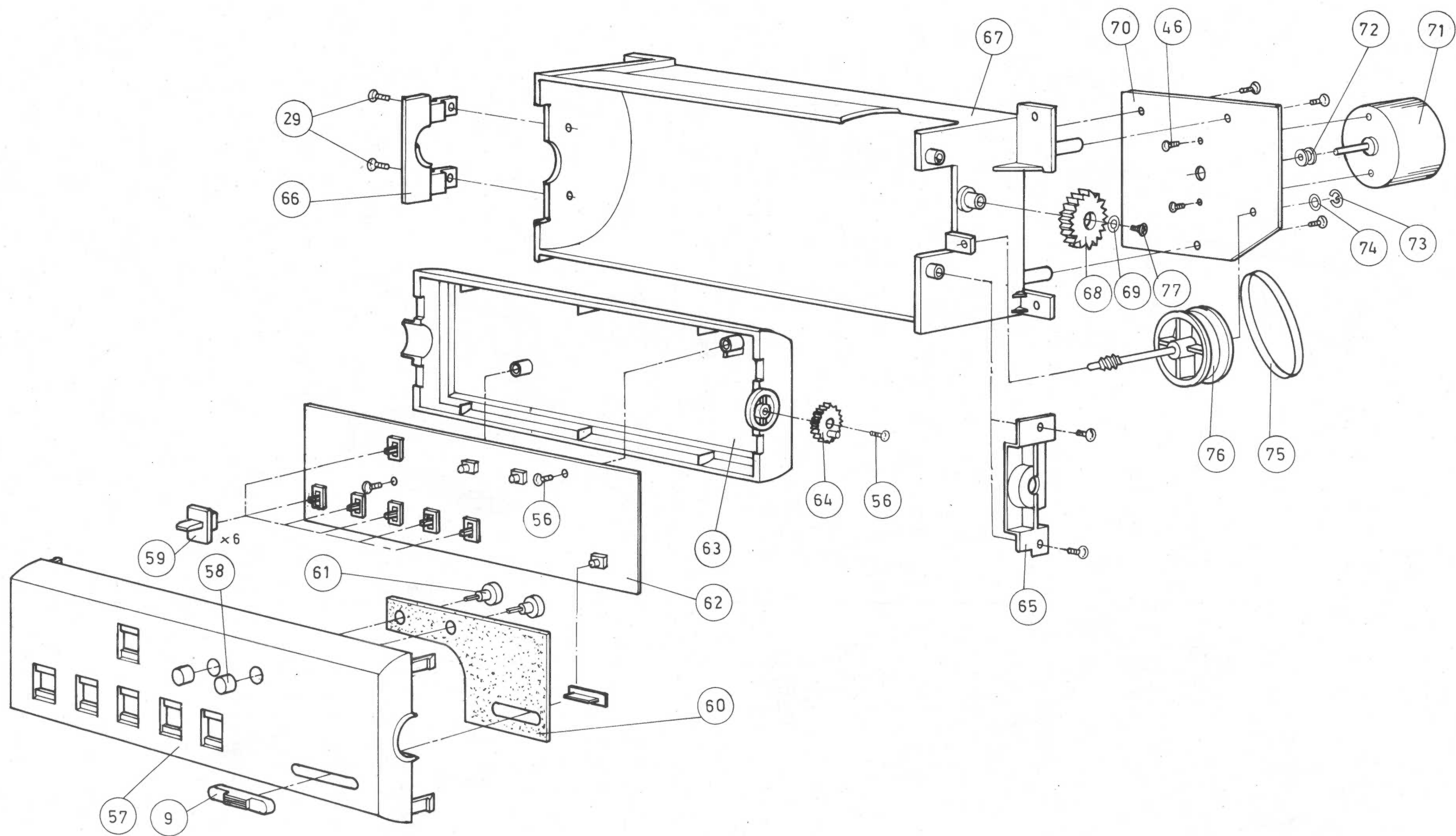
MECHANICAL PARTS LIST

ITEM	PARTS NO.	DESCRIPTION	Q'TY
1	11-8499*A	PANEL FRONT	1
2	13-9041	O-RING 34#	1
3	13-9045	VOLUME KNOB ASS'Y	1
4	13-9042	O-RING 10A#	4
5	13-9046	FUNCTION KNOB ASS'Y	4
6	13-9032	WINDOW SENSOR	1
7	13-9043	PANEL AUX.R (PVC)	1
8	11-2175	FIXED BKT	5
9	12-3266	BUTTON A BLACK	2
10	13-9029-1	WINDOW	1
11	13-1075	PANEL AUX.L	1
12	30-1363	RING (PW SW)	1
13	11-2526	BKT JACK	1
14	12-3264	BUTTON C (PW)	1
15	13-9030	INDICATOR (PW SW)	1
16	11-2510	BKT VR	1
17	28-2191	MASKER	1
18	21-3074	PAPER MYLAR	2
19	13-7048	HOLDER LCD	1
20	28-2195	SPONGE PANEL	1
21	13-7045	SHAFT A	2
22		CONTROL DOOR ASS'Y	1
23	11-2530	BKT	1
24	11-6274	CHASSIS FRONT	1
25	11-2543	BRACKET	2
26	11-9216*A	SHIELD PCB	1
27	11-2508	BKT SINK (L)	1
28	11-6265*A	CHASSIS AUX. (R)	1
29	S2B03 + I08SL-2	SCREW TA2 3 X 8 SL	50
30	11-2509	BKT SINK (R)	1
31	11-5096	HT SINK	2
32	11-6267*A	CHASSIS CENTER	1
33	11-6268	CHASSIS X'FMR	1
34	11-6264	CHASSIS AUX. (L)	1
35	13-7044	HINGE SUS REAR PANEL	2
36	14-5005	CORD BUSHING 5N-4	1
37	11-8495-1*A	PANEL BACK	1
38	15-2037*C	GROUND SCREW	1
39	50-1064-1	CABINET	1
40	15-2084	SCREW SPECIAL	4
41	12-3T02	KNOB PW	1
42	11-6266*A	CHASSIS PCB	1
43	19-1597	PCB MAIN 295 X 230	1
44	S2E03 + I08SL-2	SCREW TA2 E 3 X 8 SL	7
45	S1B03 + I08SL-2	SCREW MAC B M3 X 8 SL	9
46	S1B2.6 + I04SL-2	SCREW MAC B M2.6 X 4 SL	2
47	12-3268	BUTTON D (O/P)	1
48	13-7046	SHAFT B (FOR BUTTON D)	1
49	S2B03 + I06SL-2	SCREW TA2 B 3 X 6 SL	6
50	11-6270*A	CHASSIS BOTTOM	1
51	S1E04 + I10SL-2	SCREW MAC E M4 X 10 SL	4
52	28-1102-1	FOOT A	4
53	28-1095	PU FOOT	4
54	S2B03 + I12SL-2	SCREW TA2 B 3 X 12 SL	4
55	S1K04 + I07SL-2	SCREW MAC K M4 X 7 SL	8
56	S2B2.6 + I08SL-2	SCREW TA2 B 2.6 X 8 SL	16
57	13-1076	COVER DOOR (F)	1
58	12-3270	BUTTON E BLACK	2
59	12-3267	CAP SLIDE	6
60	28-2192	SPONGE DOOR	1
61	11-7096	SHAFT D	2
62	19-1598	PCB CONTROL DOOR	1
63	13-9033	COVER DOOR (R) PVC	1
64	11-7121	GEAR (24T)	1

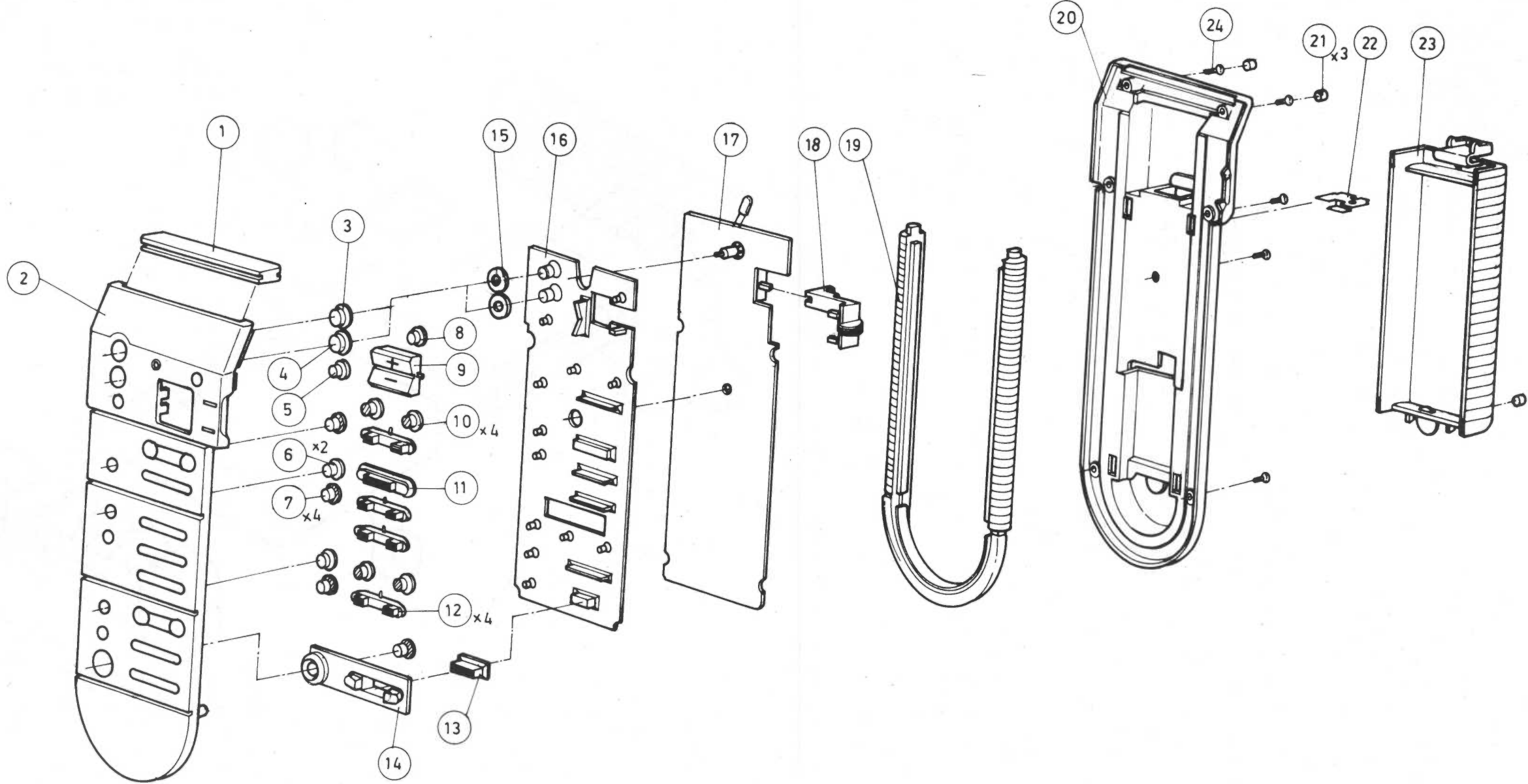
ITEM.	PARTS NO.	DESCRIPTION	Q'TY
65	13-7047-2	HOLDER (R)	1
66	13-7047-1	HOLDER (L)	1
67	13-7047	SHIELD FOR COVER DOOR	1
68	11-7117	GEAR (40T)	1
69	A033A080SL050	WASHER	1
70	11-2513	BKT FIXED FOR WORM	1
71	35-5007	MOTOR 12VDC	1
72	13-5T07	PULLEY FOR MOTOR	1
73	15-5A02	E-RING	1
74	15-4043	WASHER (ID 2mm, OD 5mm)	1
75	13-9040	BELT ø30 X 4 X 0.4	1
76	13-5075	PULLEY ASS'Y FOR WORM	1
77	S1B03 + I06SZ-2	SCREW M3 X 6	1

ASSEMBLY DIAGRAM





ASSEMBLY DIAGRAM (AH-681)

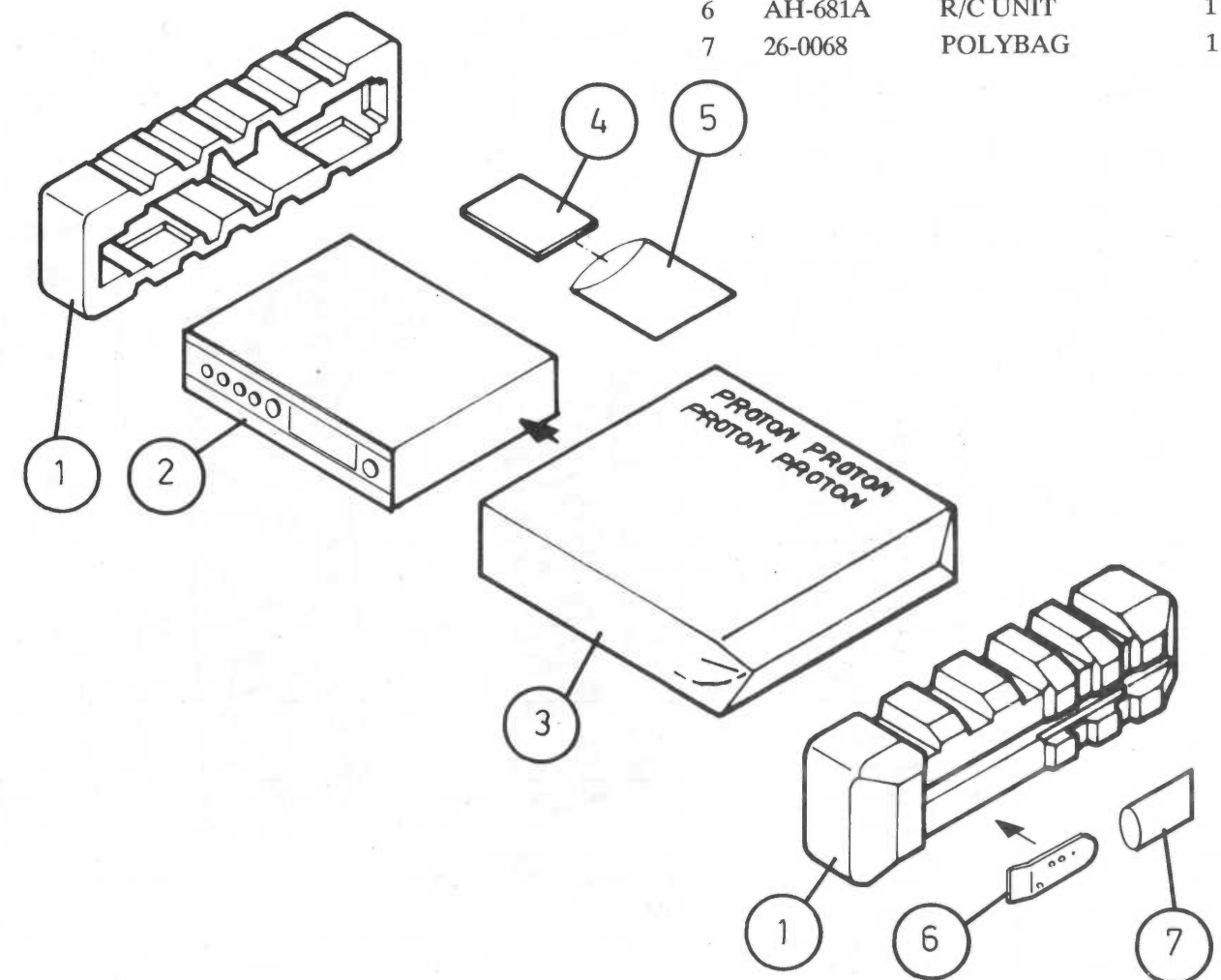


MECHANICAL PARTS LIST (AH-681)

ITEM	PARTS NO.	DESCRIPTION	Q'TY
1	13-9054	ACRYLIC FILTER	1
2	11-1200	COVER FRONT	1
3	12-3245-2	BUTTON POWER GRN	1
4	12-3245-1	BUTTON POWER BLK	1
5	12-3246-5	BUTTON PUSH GRAY	1
6	12-3246-3	BUTTON PUSH RED	2
7	12-3246-2	BUTTON PUSH BLK	4
8	12-3246	BUTTON PUSH WHT	1
9	12-3272	KNOB ROCK A	1
10	12-3246-6	BUTTON PUSH GRN	4
11	12-3275	KNOB PUSH A	1
12	12-3274	KNOB ROCK B	4
13	12-3273	KNOB PUSH B	1
14	12-7054	BUSHING	1
15	A070A105FX200	FIBER WASHER	2
16	28-1105	RUBBER CONDUCTIVE	1
17	90-1631	PCB ASS'Y	1
18	12-3271	KNOB SLIDE	1
19	28-1104	RUBBER TRIMMER	1
20	11-1201	COVER REAR	1
21	28-1106	RUBBER FT	3
22	12-1159	BATTERY CLIP(+ -)	1
23	11-1199	COVER BATTERY	1
24	S6B2.6 + I06SL-2	SCREW	7

PACKING DIAGRAM

ITEM	PARTS NO.	DESCRIPTION	Q'TY
1	34-1116	POLYLONE	2
2		AM-656	1
3	26-0070	POLYBAG	1
4	21-4213	OWNER'S MANUAL	1
	(21-4214)		
5	26-2434*A	POLYBAG	1
6	AH-681A	R/C UNIT	1
7	26-0068	POLYBAG	1



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