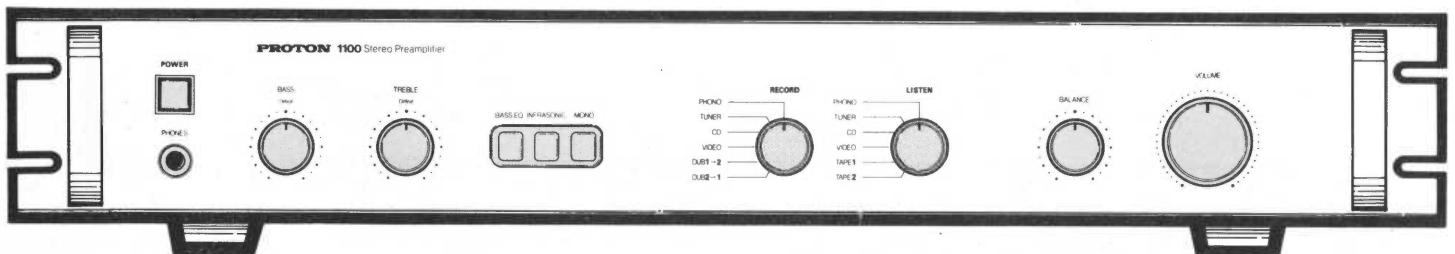


PROTON SERVICE 1100 MANUAL

STEREO PREAMPLIFIER

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SPECIFICATIONS

Maximum Output Level (20Hz-20kHz) at THD 0.1%

PRE Out:	18V
Hi-Level PRE-Out:	18V
T.H.D. 20Hz-20kHz 2 Volt Output:	0.003%
I.M.D. 2 Volt Output:	0.003%
Frequency Response 20-20kHz:	±0.2dB
High level Input Resistance/Capacitance:	30K OHM/150pF
Line Input Sensitivity (Video):	150mV
(Tape Play):	150mV
(Phono MM):	2.5mV
(Phono MC High/Low):	0.2mV/0.1mV
Residual Noise (Flat):	0.02mV
Channel Crosstalk (1kHz):	90dB
Function Crosstalk (1kHz):	84dB
S/N Ratio (A-Weighted) (Video):	105dB
(Tape Play):	105dB
(Phono MM):	94dB
(Phono MC):	79dB
Bass Control @ 100Hz (Boost/cut):	+10dB/-10dB
Treble Control @ 10kHz (Boost/cut):	+10dB/-10dB
Bass EQ @ 75 Hz:	+3dB
Infrasonic Filter (20Hz):	-3dB
(Slope):	-12dB/oct
Phono Input Resistance (MM/MC):	47k OHM/100 OHM
Phono Input Capacitance (Selectable):	100pF/200pF/320pF
Phono Overload @ 1kHz T.H.D. 0.1% (MM):	290mV
Phono T.H.D. at 4.5V Output (MM):	0.006%
(MC):	0.01%
RIAA Response Accuracy MM/MC:	±0.2dB/±0.3dB
Dimensions W x H x D (inch):	16-1/2" x 2-1/2" x 13"
(cm):	42.0 x 6.5 x 33.0 cm
Net Weight:	4.4kg/9.65 Lbs
POWER SUPPLY	
U.S.A. and Canadian Models	120V/60Hz
European Model	220V/50Hz
British and Australian Models	240V/50Hz
Other Area Model (General Model)	115V, 230V/50Hz, 60Hz

ALIGNMENT

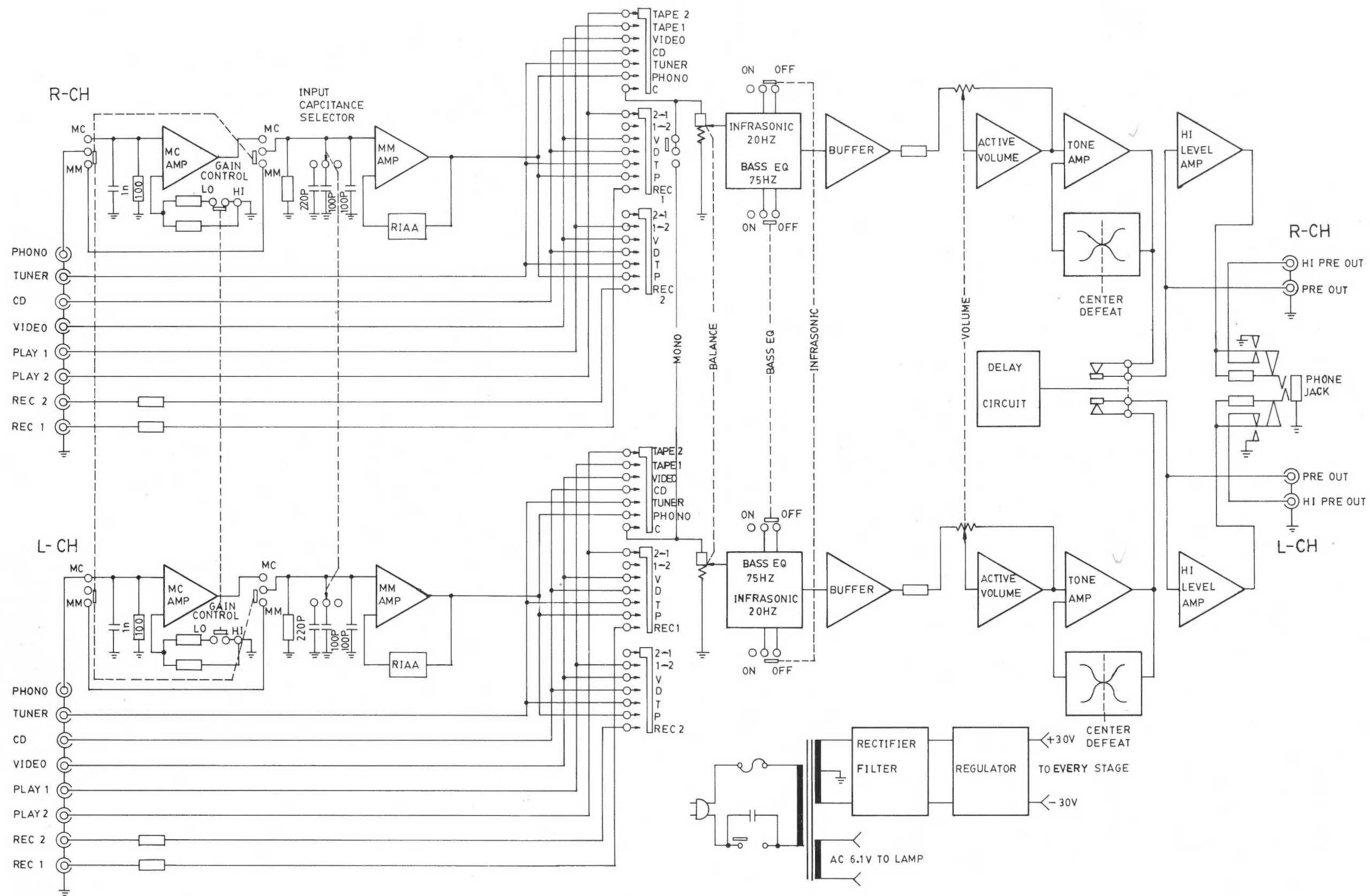
A. MM DC OFF-SET ALIGNMENT:

1. Push on power for 5 minutes PRE-heating.
2. Connect a DC millvolt-METER to T1 (L-CH) and T2 (R-CH) the meter sensitivity should be set at 3V full scale deflection.
3. Adjust VR401 (R-CH) and VR402 (L-CH) and meter sensitivity till the meter reading zero.

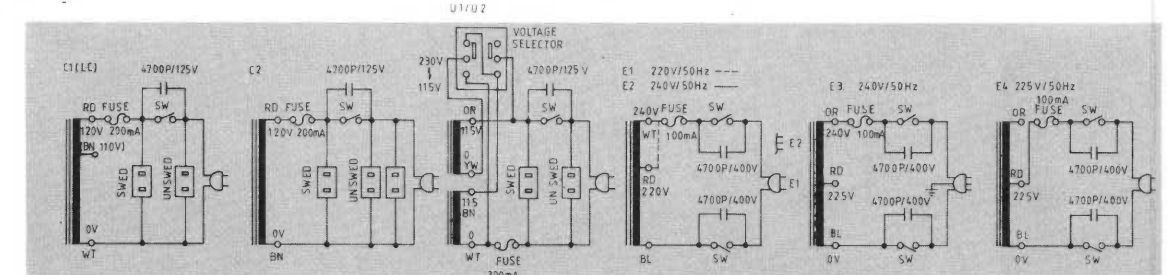
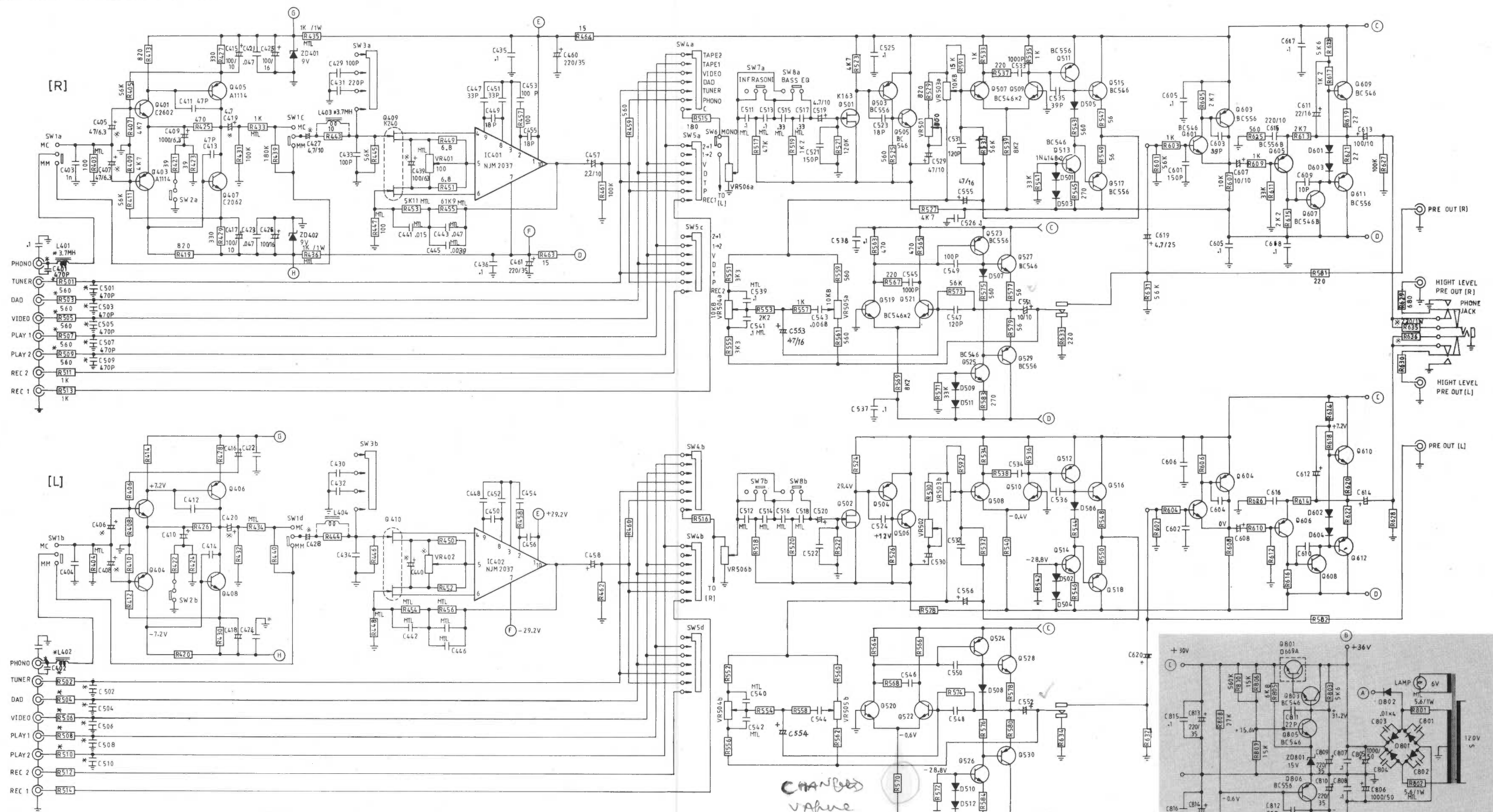
B. SENSITIVITY ADJSUT:

1. Set signal generator level at 150mV.
Connect to tuner input terminals.
2. Connect a AC-METER to PRE out terminals, the meter sensitivity should be set at 3V full scale deflection.
3. Adjust VR501 (R-CH) and VR502 (L-CH) till the meter reading to 1V output.

BLOCK DIAGRAM



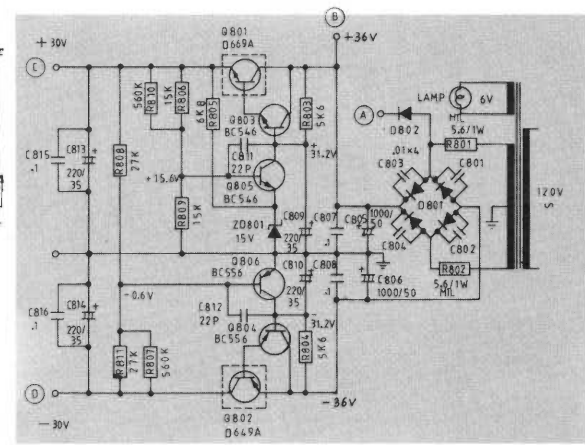
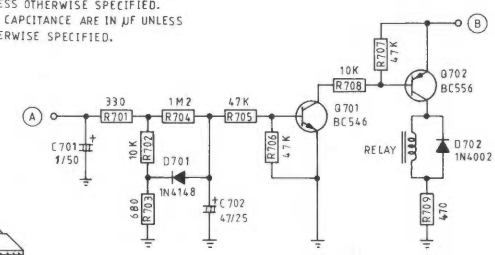
CIRCUIT DIAGRAM



NOTE:

- SW1 MC/MM SELECTOR (MM)
- SW2 MC HI/LO SELECTOR (LO)
- SW3 MM INPUT CAPACITANCE SELECTOR (100P)
- SW4 INPUT SOURCE SELECTOR (TAPE2)
- SW5 RECORD SOURCE SELECTOR
- SW6 MONO/STEREO SELECTOR (STEREO)
- SW7 INFRASONIC (OFF)
- SW8 BASS EQ (OFF)
- VR503 VOLUME CONTROL
- VR504 BASS CONTROL
- VR505 TREBLE CONTROL
- VR506 BLANCE CONTROL
- VR401 MM OFFSET VOLTAGE ADJ
- VR501 SENS ADJ
- HEAT SINK
- BC546 BC556
- 2S11114 2S2062
- 2S8649A 2S0669A
- NJM 2037

1 * SPECIAL CAPACITANCE FOR AUDIO
2 * ES ONLY
3 ALL RESISTOR ARE 1/4W 5% CARBON UNLESS OTHERWISE SPECIFIED.
4 ALL CAPTICANCE ARE IN JUF UNLESS OTHERWISE SPECIFIED.

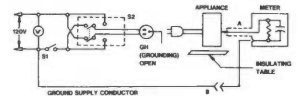


CAUTION- Each precaution to be followed during servicing.

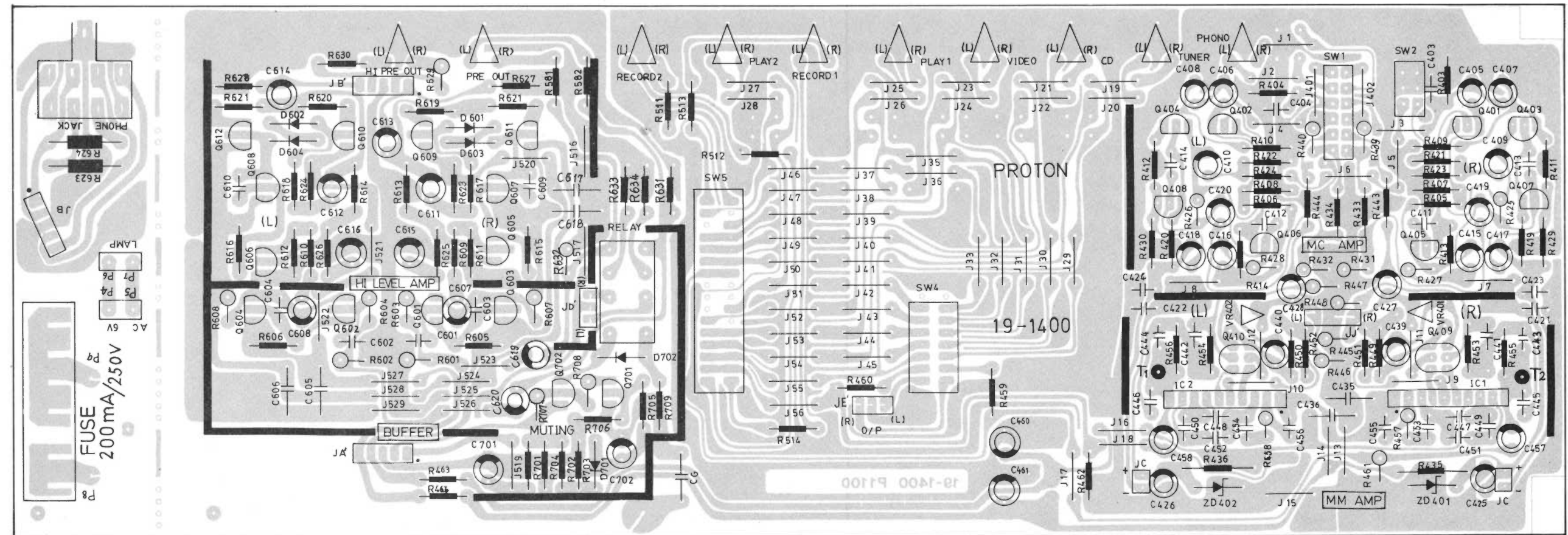
CRITICAL COMPONENT WARNING

- These CRITICAL COMPONENTS that are shaded on 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.

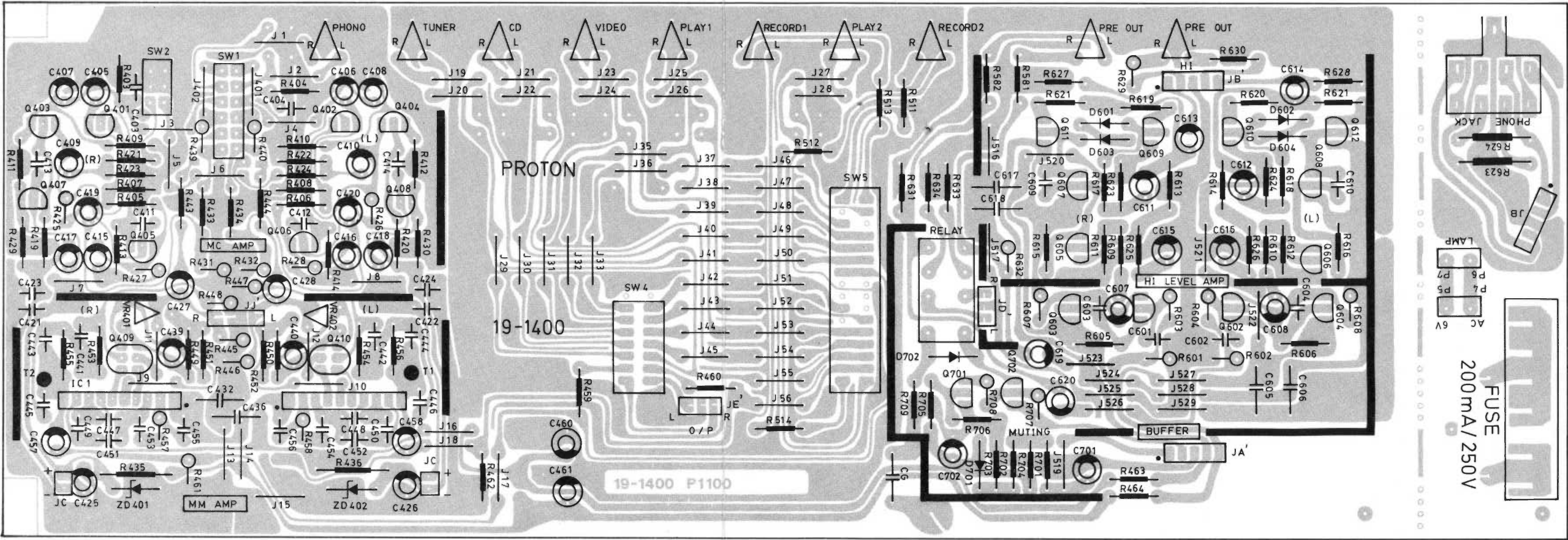
CAUTION- Make leakage current measurement before returning the appliance to the customer. See measurement circuit as shown below.



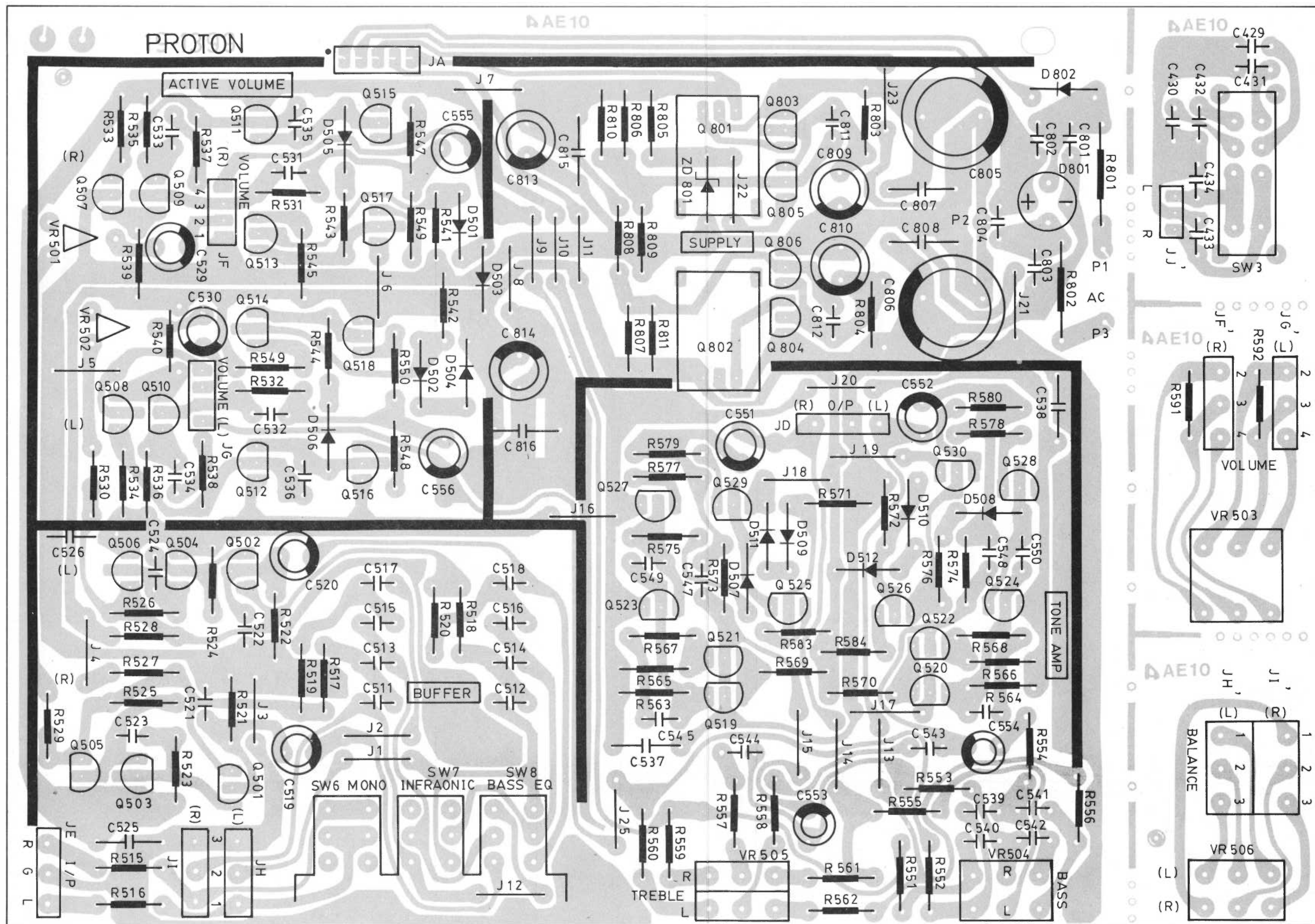
PCB PARTS LOCATION (TOP VIEW)



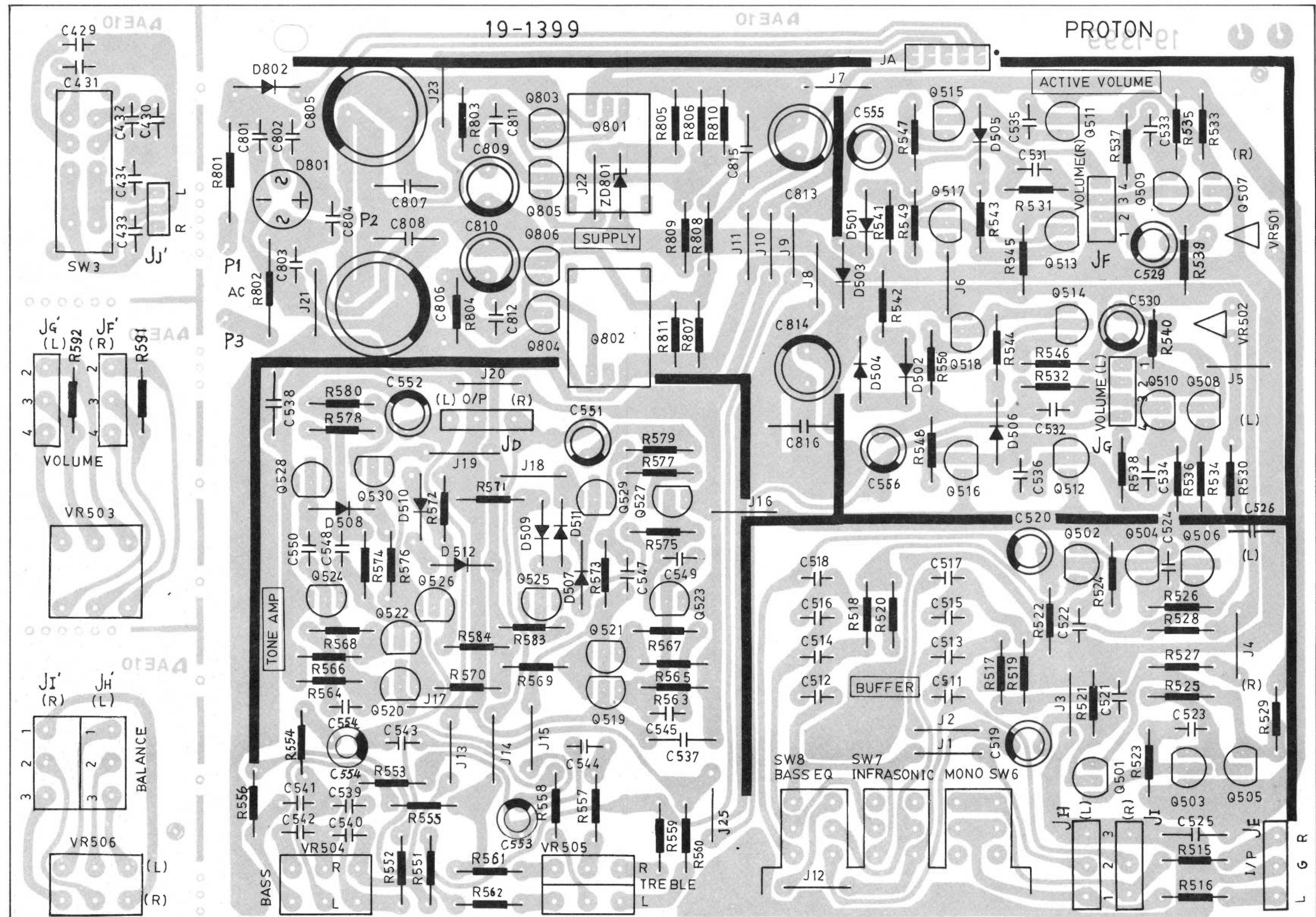
PCB PARTS LOCATION (BOTTOM VIEW)



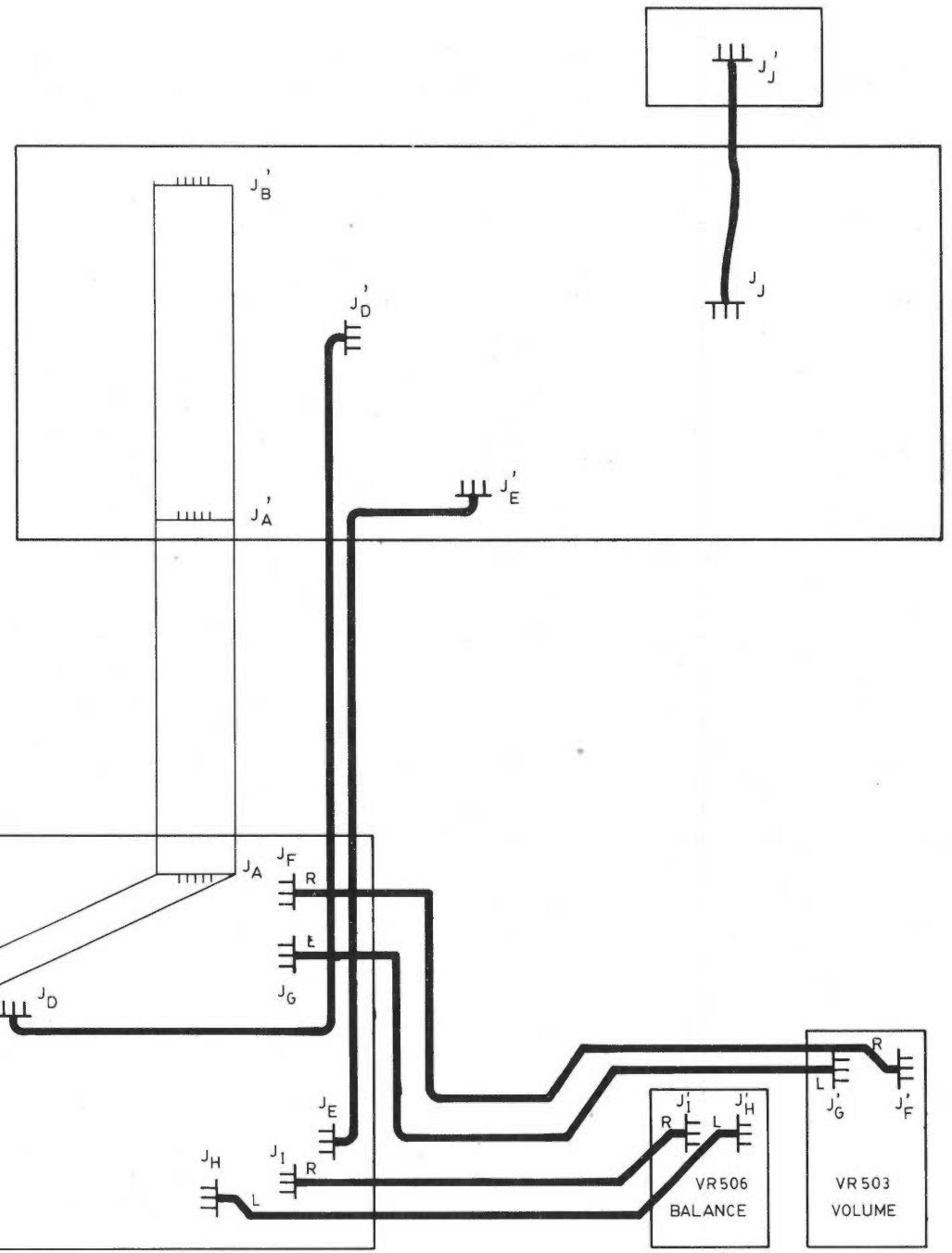
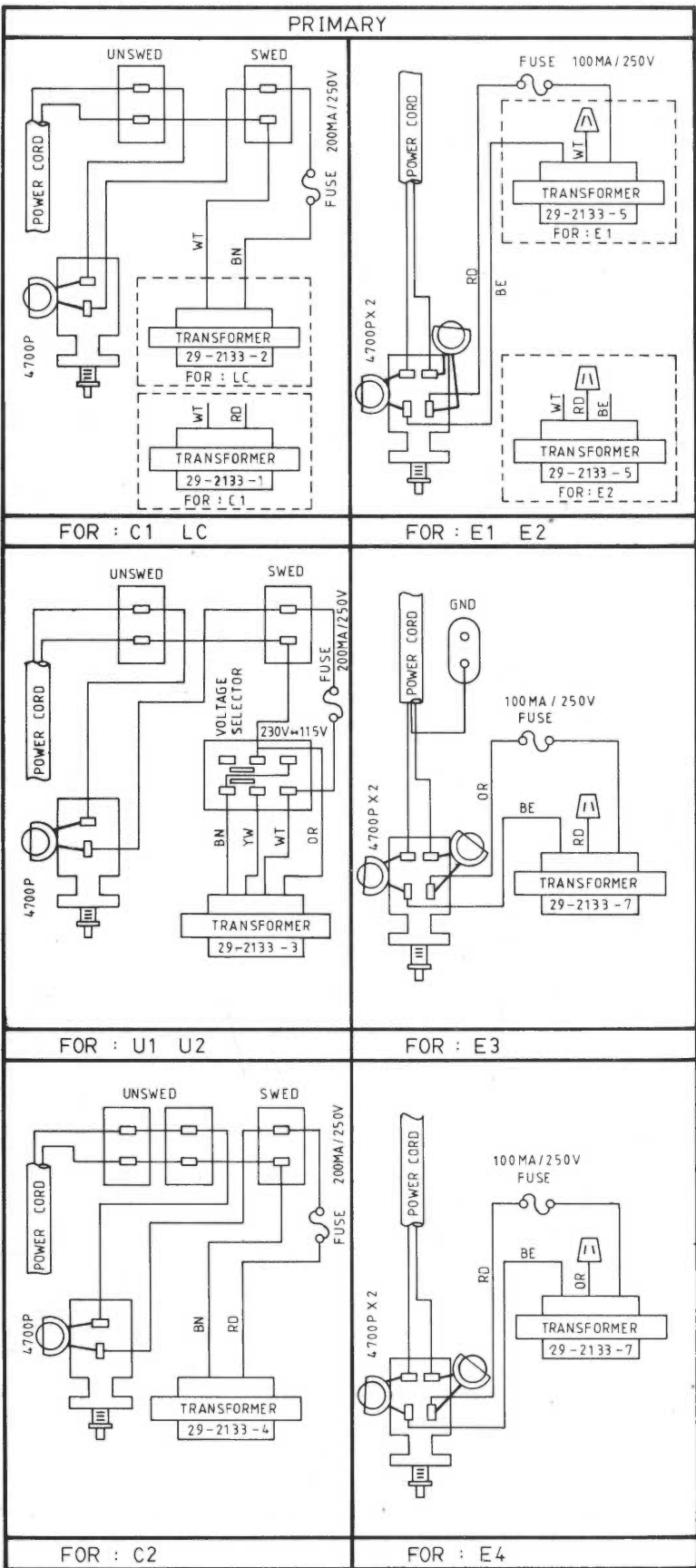
PCB PARTS LOCATION (TOP VIEW)



PCB PARTS LOCATION (BOTTOM VIEW)



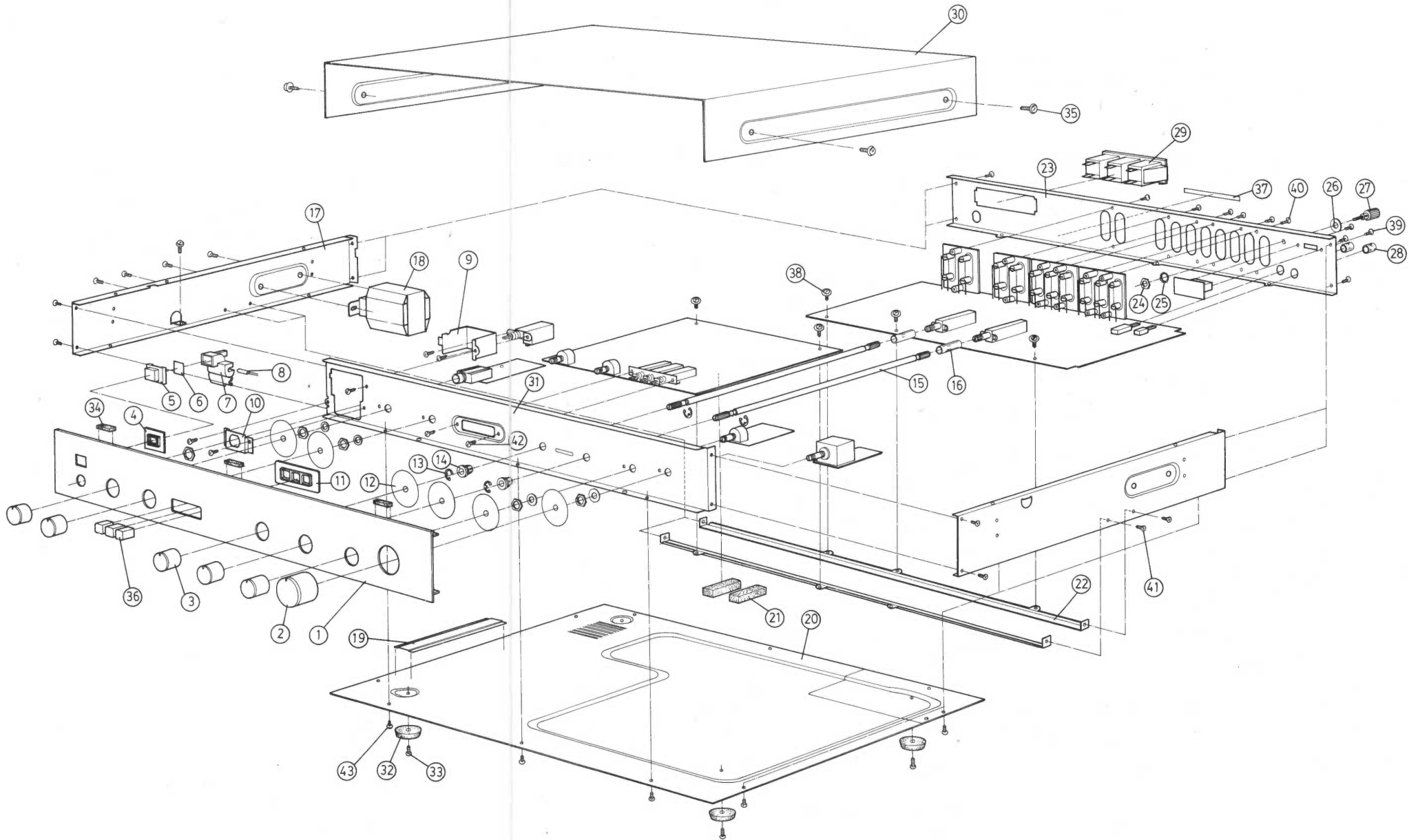
WIRING DIAGRAM



MECHANICAL PARTS LIST

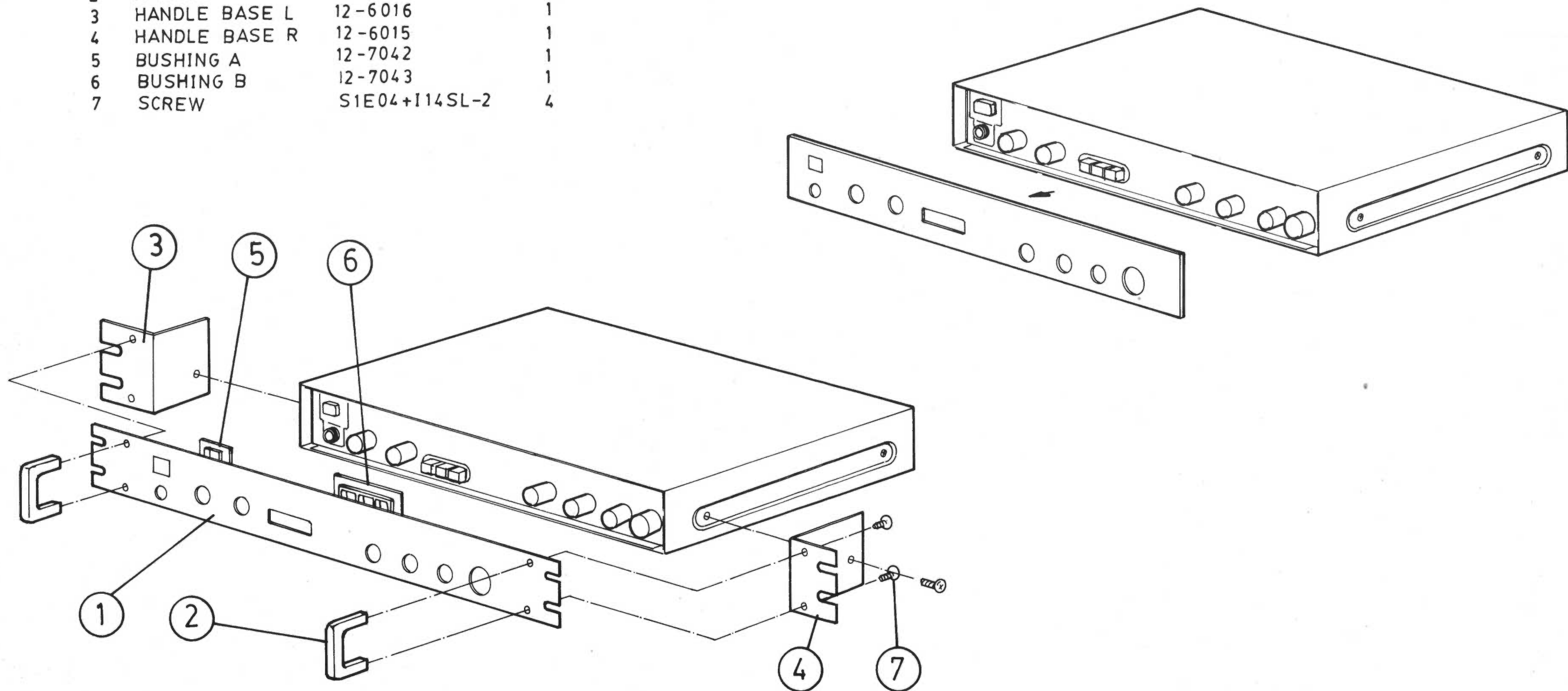
ITEM	PART NO.	DESCRIPTION	Q'TY
1	11-8374	FRONT PANEL	1
2	12-3195	KNOB B	1
3	12-3194	KNOB A	5
4	12-7042	BUSHING A	1
5	12-3193	PUSH KNOB	1
6	11-1961	SHIELD	1
7	12-7044	PW SW CONNECTOR	1
8	31-2044	LAMP	1
9	11-2403	BRACKET	1
10	11-2328*A	BRACKET HEADPHONES	1
11	12-7043	BUSHING B	1
12	28-2120	MASKER	6
13	15-5014	E RING	4
14	13-4027*A	TUBE FOR SHAFT	2
15	11-7080	SHAFT	2
16	12-7003*A	TUBE	2
17	11-6200	CHASSIS	2
18	29-2133	TRANSFORMER	1
19	13-4T04	FIBER	1
20	11-6216	BOTTOM COVER	1
21	28-2134	RETAINER	2
22	11-6201	CENTER CHASSIS	2
23	11-8375	BACK PANEL	1
24	N3.5B06I2.8SZ	NUT ST ZMC 3A	1
25	A3.5I07SZ01	G/W ST ZMC 3A	1
26	A3.5A09SN01	WASHER ST NI	1
27	15-2037*C	GROUND SCREW	1
28	12-3T02	POWER SW KNOB	2
29	12-2194	AC OUTLET	1
30	11-1T43	TOP COVER	1
31	11-6199	FRONT CHASSIS	1
32	28-1029	RUBBER FEET	4
33	15-2063	STAND SCREW	4
34	28-2090	RETAINER	6
35	15-2051*A	SPECIAL SCREW	6
36	12-3T08	KNOB PUSH SW BLACK	3
37	21-3056	LABEL SERIAL NO	1
38	15-2075	SPECIAL SCREW	6
39	S1B2.6+I04SL-2	SCREW	2
40	S2B03+I08SL-2	SCREW	13
41	S2B03+I06SL-2	SCREW	25
42	S1B03+I06SZ-2	SCREW	9
43	S2B03+I08SL-2	SCREW	5

ASSEMBLY DIAGRAM



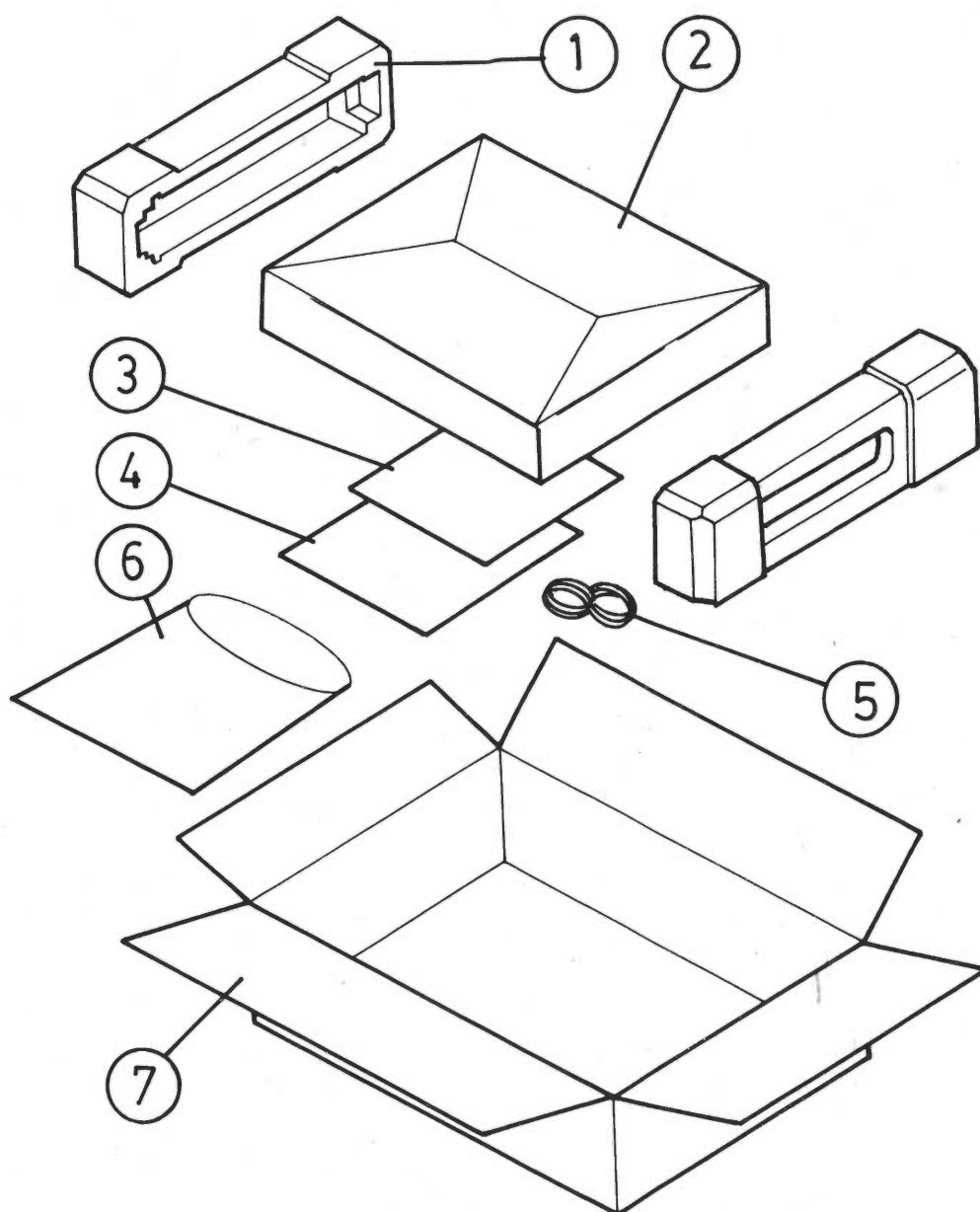
HANDLE ASSEMBLY DIAGRAM

ITEM	DESCRIPTION	PART NO.	QTY
1	FRONT PANEL H	11-8374-1	1
2	HANDLE	12-6011	2
3	HANDLE BASE L	12-6016	1
4	HANDLE BASE R	12-6015	1
5	BUSHING A	12-7042	1
6	BUSHING B	12-7043	1
7	SCREW	S1E04+I14SL-2	4



PACKING DIAGRAM

ITEM	DESCRIPTION	PART NO.	Q'TY
1	POLYLONE	34-1078	2
2	POLY PAPER	26-0005*B	1
3	WARRANTY CARD	21-3037*A	1
4	OWNER'S MANUAL	21-4141	1
5	RCA TO RCA CABLE	14-4331	1
6	POLY BAG MANUAL	26-2434*A	1
7	INNER CARTON	CT-5282	1



PROTON

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Printed in Taiwan