3.17 A.C. POWER SUPPLY UNIT

Purpose To provide the power requirements of the SSB type 130 from an a.c. supply of 100-240V a.c. 40-60 Hz.

Input A.C. supply 100-240V

Output +700V d.c. at pin 1 for P.A. Anodes

+200V d.c. at pin 2 for P.A. Screens

-ve 100V d.c. at pin 3 for P.A. Grids and Antenna relay

+13.2V d.c. at pin 5 for common +ve line supply and ovens

12V a.c. at pins 6 & 12 for P.A. heaters

Ground at pin 10 & 13 & 4

Circuit Description A.C. supply applied at SKA is fed to the primary of transformer T1 whose secondary windings provide outputs as follows:-

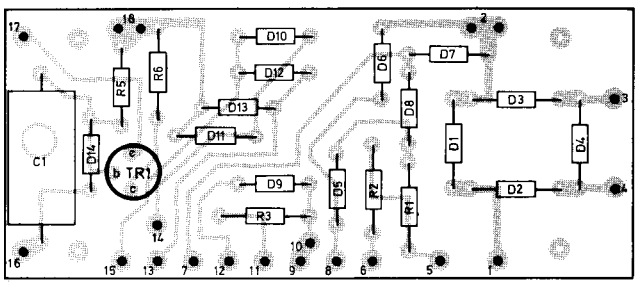
700V dc Rectified by the full wave bridge rectifier D1-D4 smoothed by the chassis mounted components R2, R3, R4, C1 and C2. The output of 700V is available at pin 1.

200V dc Rectified by the full wave bridge rectifier D5 to D8, smoothed by the board components R1, R2 and the chassis mounted components R5, C3 a and b. The 200V output is available at pin 2.

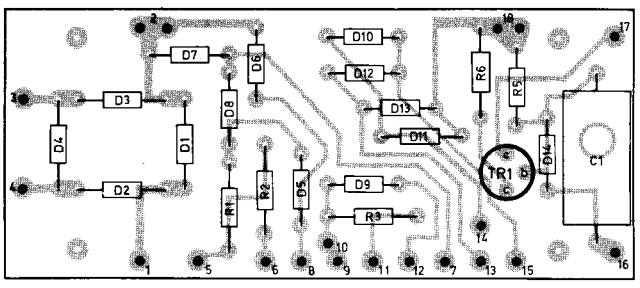
-100V dc T1 secondary voltage is fed to the half wave rectifier D9. The rectifier output smoothed by board component R3, chassis components R6, C5 and C4 is available at pin 3 of SKB.

+13.2V dc Rectified by the full wave rectifier D10-D13 smoothed by board component R4, chassis component C6 and applied to the voltage regulator transistor TR1. The output voltage from TR1 is determined by the base voltage which is set by R5 and D14, C1 provides additional smoothing and the +13V is available at pin 5.

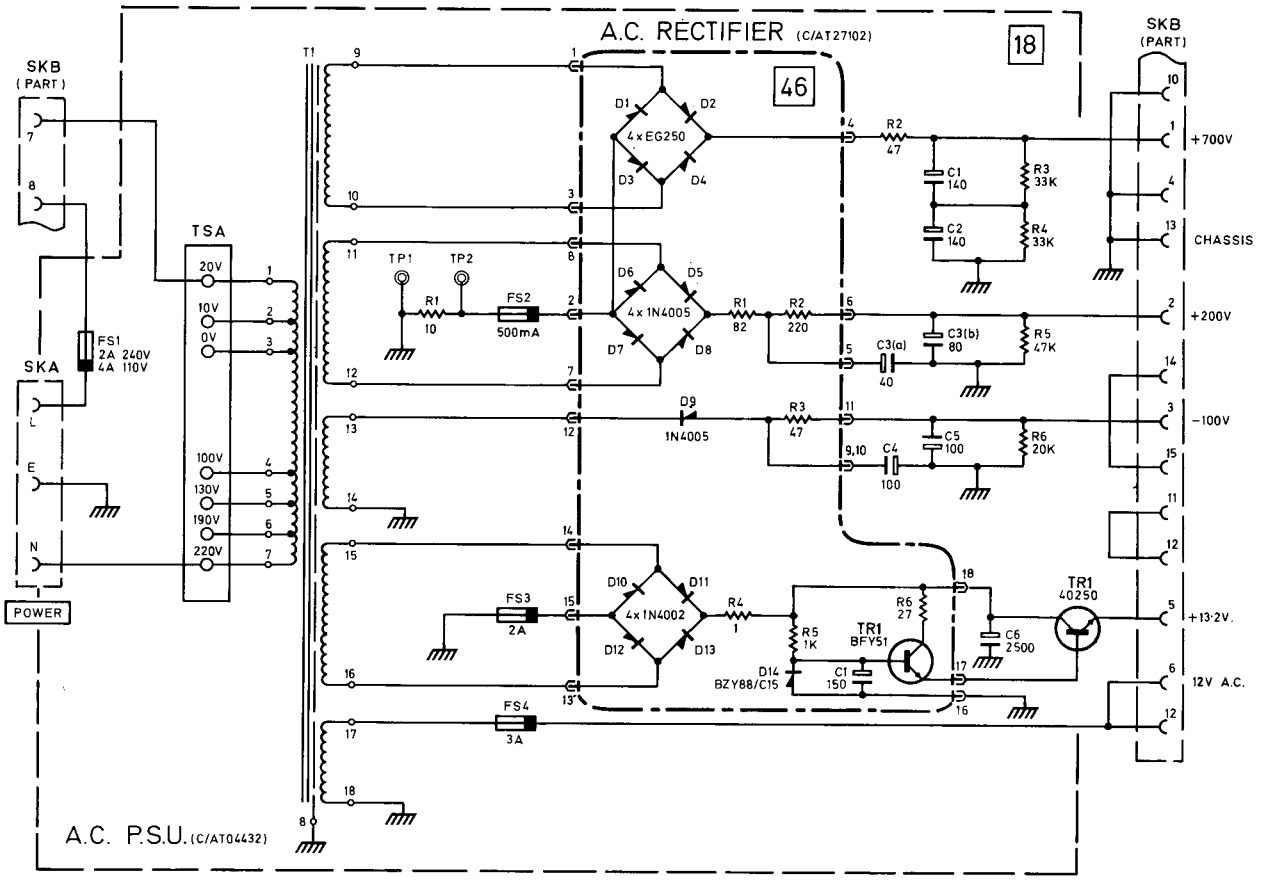
12V ac 12V for the heaters is taken via the 3A fuse FS4 to pins 6 and 12.

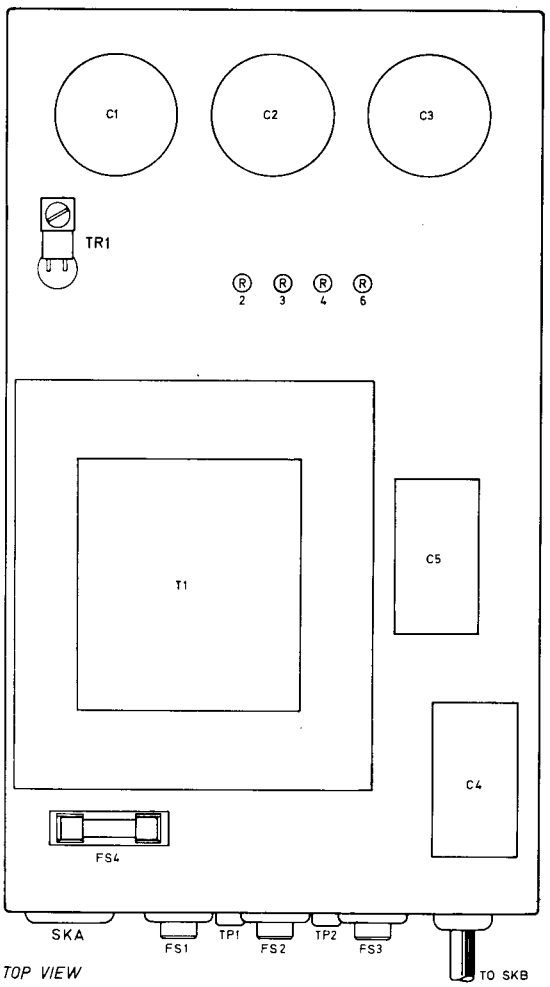


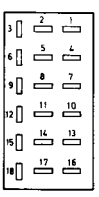
TOP VIEW

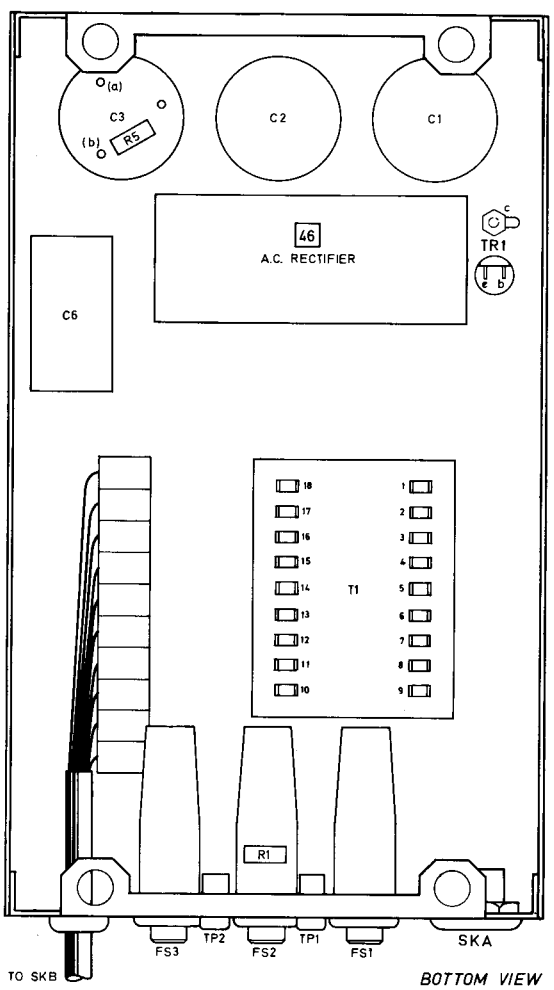


BOTTOM VIEW


A.C. RECTIFIER (C/AT27102)
18
46
SKB (PART)
SKA
TSA
T1
POWER
FS1 2A 240V 4A 110V
20V
10V
0V
100V
130V
190V
220V
TP1
TP2
R1 10
FS2 500mA
4 x EG250
D1
D2
D3
D4
4 x 1N4005
D5
D6
D7
D8
R1 82
R2 220
R2 47
C1 140
C2 140
R3 33K
R4 33K
C3(a) 40
C3(b) 80
R5 47K
D9 1N4005
R3 47
C4 100
C5 100
R6 20K
FS3 2A
4 x 1N4002
D10
D11
D12
D13
R4 1
R5 1K
R6 27
TR1 BFY51
C6 2500
TR1 40250
D14 BZY88/C15
C1 150
FS4 3A
+700V
CHASSIS
+200V
-100V
+13·2V.
12V A.C.
A.C. P.S.U. (C/AT04432)


C1
C2
C3
TR1
T1
C5
C4
FS4
SKA
FS1
TP1
FS2
TP2
FS3
TO SKB
TOP VIEW


SKB
(REAR VIEW)


C3
(a)
(b)
R5
C2
C1
46
A.C. RECTIFIER
TR1
C6
T1
R1
FS3
TP2
FS2
TP1
FS1
SKA
TO SKB
BOTTOM VIEW