Components List. RF 'vox'

R 20 100R
R21 47K pre-set
R22,23 330R

C20 4.7pF
C21 470pF
C22 1000mFd 16V electrolytic
C23 2nF

D20,21 1N4148
D22 1N4002

Q20 BFY 51

2 off LED (colours to preference)

Misc: Fuse & holder, panel mount
2 off spst on/off switches
Die cast box approx 200x110x60mm

Relays are listed in PA section
S0239 or other RF sockets nuts etc.

Heatsink Type 4M 229 approx 101x94x14
(available from Ambit Int.)

Components List. PA board.

R1 120R 9w
R2 10R ¼w

C1,2,8,9 100pF Trimmers (foil compression or plastics types)
C3,4 68pF
C5 470uF 16V electrolytic
C6 4n7
C7, 11 150n
C10 150pF

D1 IN5401

L1 2.5 turns wound on 6mm dia drill and then stretched out to approx 8mm long. 18swg

L3,6 4 turns through an FX1115 ferrite bead. 25swg
L5 6 turns on 6mm dia, close wound. 22swg
L7 3.5 turns on 6mm dia close wound. 18swg
L2,4 Inductances formed in double sided PCB **see Fig 2**

RLA1,2 Pye type 7705 (available from "Brown's Wireless Store, 44 George IV Bridge, Edinburgh 1) double pole changeover 12V approx 400R

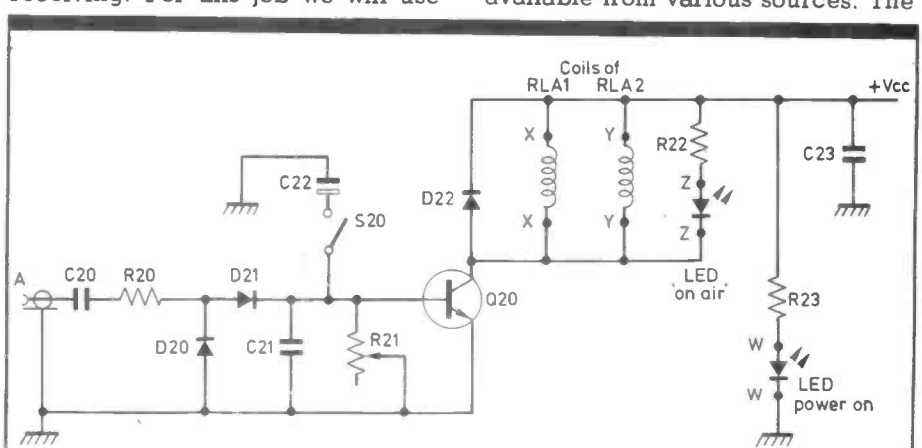
2 off FX1115 beads.

Tr1 2N6083 see also Table *

volved in mirror images. This enables checking of the circuit to be more easily completed and this is the next stage before test and tune. Double check your circuit against both **Fig 2** and **Fig 2** before moving on. Note that the most dangerous period in the life of an RF power transistor in during tune-up. Do try to follow the directions for test and tune and do not key the mike for long periods until you are sure the unit is on tune and ready to go. Initially the transistor should not be run for more than a few seconds without a check on temperature. Try the fingertip!

Connect the unit via co-ax and the preferred sockets to an FM tx-cvr, power supply, power meter and dummy load. If no power meter is available, then one of the small inexpensive SWR meters as used on CB will suffice as we are tuning for maximum "smoke" or output. Set C1,C2, C8, and C9 to their approximate mid points and switch on, but do not key the mike. Check voltage and current at points * on Fig 1, but note these are for the 2N6083 device specified. Assuming there are no major problems, key the mike and adjust C8 for maximum response followed by C9, C1 and C2 in that order. Give the transistor a rest, and then do it all again at least twice or unitl you are sure no further improvement can be made.

Now having got a working PA on FM, the problem is to switch it on and off when transmitting and receiving. For this job we will use the circuit of **Fig 4.**, a simple RF "vox" type switch. This should be done on a small etched single sided PCB and the layout is shown in **Fig 5.** Since this is a fairly uncomplicated unit, it can be drawn out by hand using a Dalo or similar etch resist pen, or for a neater job, you can use the dry transfer method available from various sources. The



Note. For use on f.m. only — miss out S20, C22 replace R21 with fixed 47k resistor.

X–X Coils of RLA1
Y–Y Coils of RLA2
Z–Z 'On air' LED
W–W 'On' LED

FIG. 4. R.F. 'vox' switch.