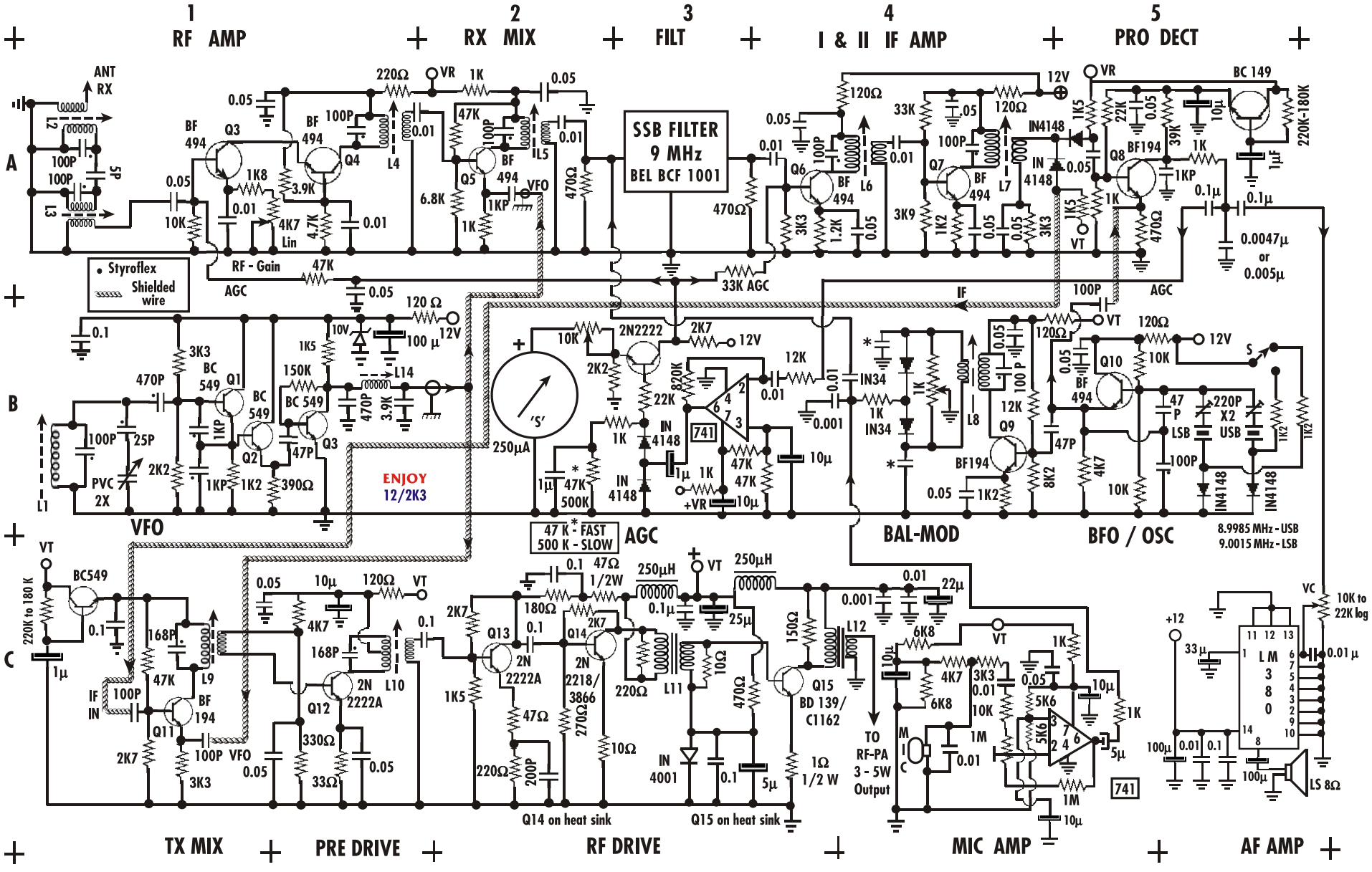
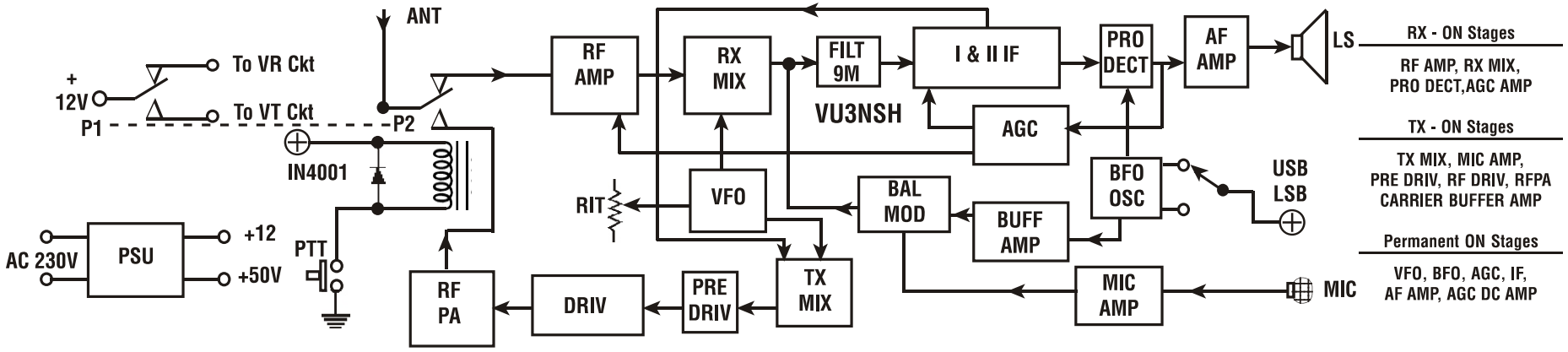
HF TXVER RM-96 / VER.1

CIRCUIT REDRAWN BY HARI - VU3NSH

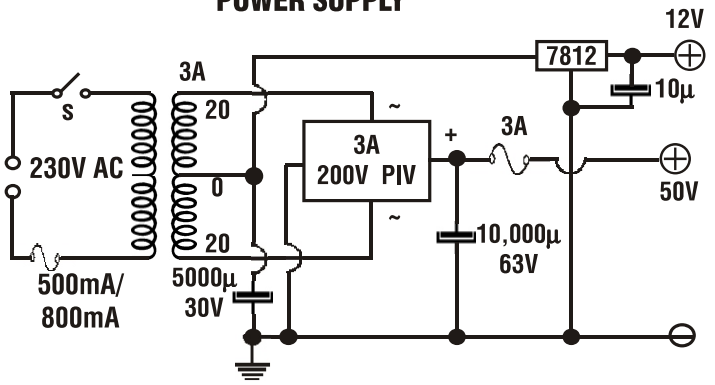


Connect 150 PF parallel with 220 ohms at L11 and 150 ohms at L12 .

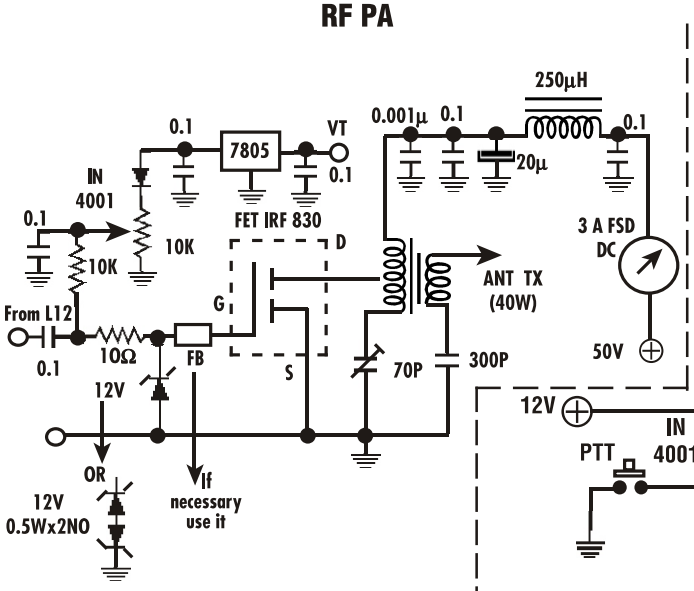
RM96 BLOCK DIAGRAM



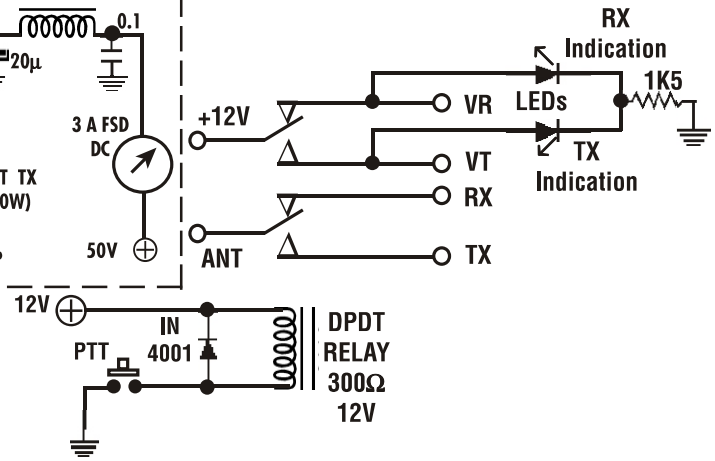
POWER SUPPLY



RF PA

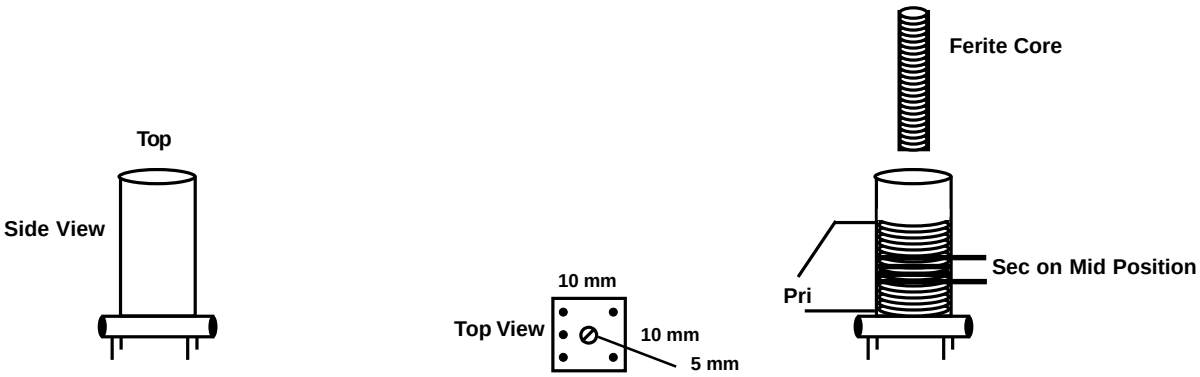


PTT & RELAY CIRCUIT



RM 96 SSB TRANSCEIVER - COIL WINDING DATA

By N.S. Harisankar VU3NSH



L2 E 32T S E 2T S	L3 32T S E E S 5T	L4 E 5T S E 32 T S
L5 S 4 T E E 25 T S	L6 E 7 T S E 25 T S	L7 E 7 T S E 25 T S
L8 10 T S 25 T E	L9 S 20 T E S 5 T E	L10 20 T E Mid 0 S 5 T
L1 S 80 T E	S-Start, E-End	L14 E 50 T S

All coils are closed winded, more turns at first and less turns at mid. In figure, Left and right pins positions as on PCB Top side. All coil winding wires is of 36 SWG. Above mentioned all coils are IFT type and 5mm coil former with 10mm squire base and 5 pins and ferrite slug and can

For IFT formers, help may be available from VU2VIT, VU2SDN & VU2PTR.

ENJOY

SHOPPING LIST FOR RM 96 HF TXVER

PART- III

by N.S. Harisankar VU3NSH

BPF & RF Amp

L2, L3 & L4	
100 PF - Styroflex	3 Nos.
4.7 PF or 5PF	1 No.
0.047 µF	2 Nos.
0.01 µF	3 Nos.
10K Ω ¼W	1 No.
1k8 Ω ¼ W	1 No.
3k9 Ω ¼ W	1 No.
4k7 Ω ¼ W	1 No.
220 Ω ¼ W	1 No.
4k7 Pot, Lin	1 No.
BF494	2 Nos.

RX MIX & Filter

L5	
100PF-Styroflex	1 No.
0.047 µ F	1 No.
0.01 µ F	2 Nos.
0.001 µ F	1 No.
47 k Ω ¼ W	1 No.
1 k Ω ¼ W	2 No.
6 k8 Ω ¼ W	1 No.
470 Ω ¼ W	2 Nos.
BEL - SSB Filter 9MHZ	
9 MHZ (BCF 1001)	1 No.
BF494	1 No.

I & II IF Amp

L6, L7	
100 PF-Styroflex	2 Nos.
0.047 µ F	5 Nos.
0.01 µ F	1 No.
120 Ω ¼ W	2 Nos.
3 k3 Ω ¼ W	2 Nos.
1 k2 Ω ¼ W	2 Nos.
3k9 Ω ¼ W	1 No.
33k Ω ¼ W	1 No.
1k5 Ω ¼ W	1 Nos.
BF494	2 Nos.
1N4148	2 Nos.

Pro. Dect

0.047 µ F	2 Nos.
0.001 µ F	1 No.
0.1 µ F	2 Nos.
0.0047 µF	1 No.
10 µ F 25V	1 No.
1 µ F 25V	1 No.
22 k Ω ¼ W	1 No.
39 k Ω ¼ W	1 No.
470 Ω ¼ W	1 No.
1 k Ω ¼ W	2 Nos.
220k to180k ¼ W	1 No.
BF 494	1 No.
BC 547	1 No.

AF Amp

33 µ F 25V	1 No.
100 µ F 25V	2 Nos.
0.01 µ F	2 Nos.
0.001 µ F	1 No.
LM 380 IC	1 No.
8 Ω 1W SP	1 No.
10k to 22k Pot.Log	1 No.

AGC

0.01 µ F	1 No.
1 µ F 25V	2 Nos.
10 µF 25 V	2 Nos.
1 k Ω ¼ W	2 Nos.
2 k2 Ω ¼ W	1 Nos.
2 k7 Ω ¼ W	1 Nos.
22 k Ω ¼ W	1 No.
820 k Ω ¼ W	1 No.
47 k Ω ¼ W	3 Nos.
12 k Ω ¼ W	1 No.
33 k Ω ¼ W	1 No.
47 k Ω / 500kΩ	1+1 Nos.
10 k Preset	1 No.
741 IC	1 No.
1N4148	2 Nos.
2N2222	1 No.
250 µ A - VU meter	1 No.

BFO / OSC

0.047 µ F	1 No.
100PF-Styroflex	1 No.
47 PF-Styroflex	1 No.
30 PF Trimmer	2 Nos.
100 PF	1 No.
120 Ω ¼ W	1 No.
10k Ω ¼ W	2 Nos.
4k7 Ω ¼ W	1 No.
1k2 Ω ¼ W	2 Nos.
BF 494	1 No.
1N4148	2 Nos.
LSB/USB Crystal	
BEL-9.0015&8.9985	1+1 Nos.

VFO

L1 & L 14	
100 PF-Styroflex	1 No.
470 PF-Styroflex	2 Nos.
1k PF-Styroflex	2 Nos.
47 PF-Styroflex	1 No.
3k9 PF-Styroflex	1 No.
0.1 µ F	1 No.
100 µ F 25 V	1 No.
BC 549	3 Nos.
10V-400mw Zener	1 No.
120 Ω ¼ W	1 No.
3k3 Ω ¼ W	1 No.
2k2 Ω ¼ W	1 No.

1k2 Ω ¼ W	1 No.
1k5 Ω ¼ W	1 No.
150k Ω ¼ W	1 No.
390 Ω ¼ W	1 No.
2X - Gang + 25 PF	
or 20 PF Gang	

BAL. MOD

L8	
100 PF - Styrolex	1 No.
47 PF	1 No.
0.047 µF	2 Nos.
0.01µF	1No.
0.001µF	1No.
30PF Trimmer	2 Nos.
12 k Ω ¼ W	1 No.
120 Ω ¼ W	1 No.
8 k2 Ω ¼ W	1 No.
1 k2 Ω ¼ W	1 No.
1 k Ω ¼ W	1 No.
1 k Preset	1 No.
1N34 or 1N4148	2 Nos.

MIC Amp

0.047 µF	1 No.
0.01 µF	2 Nos.
10 µF 25 V	3 Nos.
4.7 µF 25 V	1 No.
1 k Ω ¼ W	2 Nos.
1 M Ω ¼ W	1 No.
10 k Ω ¼ W	1 No.
6 k8 Ω ¼ W	2 Nos.
4 k7 Ω ¼ W	1 No.
3 k3 Ω ¼ W	1 No.
10 k Ω ¼ W	1 No.
5 k6 Ω ¼ W	2 Nos.
1 M Ω Preset	1 No.
741 IC	1 No.
2 Pin con - MIC	1 No.

TX - MIX & RF Pre.Driv.

L_9 & L_{10}	
168 PF - Styroflex	2 Nos.
100 PF	2 Nos.
0.047 µF	3 Nos.
0.1 µF	2 Nos.
1 µF 25 V	1 No.
10 µF 25 V	1 No.
47 kΩ ¼ W	1 No.
2k7 Ω ¼ W	1 No.
3k3 Ω ¼ W	1 No.
47 kΩ ¼ W	1 No.
120 Ω ¼ W	1 No.
330 Ω ¼ W	1 No.
180 k to 220 k	1 No.
BF 494	1 No.
2N2222	1 No.

RF Driv

L_{11} & L_{12}	
200 PF - Styroflex	1 No.
150 PF - Styroflex	1 No.
180 PF - Styroflex	1 No.
0.1 µF	4 Nos.
0.01 µF	1 No.
25 µF / 22 µF - 25 V	2 Nos.
4.7 µF - 25 V	1 No.
47 Ω ½ W	1 No.
1 Ω ½ W	1 No.
470 Ω ½ W	1 No.
10 Ω ¼ W	1 No.
220 Ω ¼ W	2 Nos.
47 Ω ¼ W	1 No.
1k5 Ω ¼ W	1 No.
2k7 Ω ¼ W	2 Nos.
270 Ω ¼ W	1 No.
180 Ω ¼ W	1 No.
150 Ω ¼ W	1 No.
2N2222	1 No.
2N2218 / 2N3866	1 No.
BD139/C1162	1 No.
1N4007	1 No.
250 µH RFC	2 Nos.

Heat sink for 2N2218 & BD 139 1 +1 Nos. RFC - 20T - 28 SWG on FT 37-43 or T-O5 HFA / Balun

Ref circuit & coil Data on Back issue (1) HRN - Jan - Mar 2003, (2) HRN - April-June 2003

For getting technical support use forums in “www.hamradioindia.org”.

On air 40m band you can discuss with VU2ETO, VU2GIP, VU2VJY, VU2PTR, VU2HRS, VU2POP, VU2BFO ..... VU2GIP - OM Gopi has made 24 numbers of RM96 transceivers.

For getting 14 MHz (20m band) transceiver kit contact VU2IF. The kit named ATS1 is having a complete assembling manual, circuit and component list. The PCB is epoxy with all components marked. The kit is having all IFTs and coils.

For frequency counter PCBs and PUSH-PULL RF AMP for this projects are available with me.