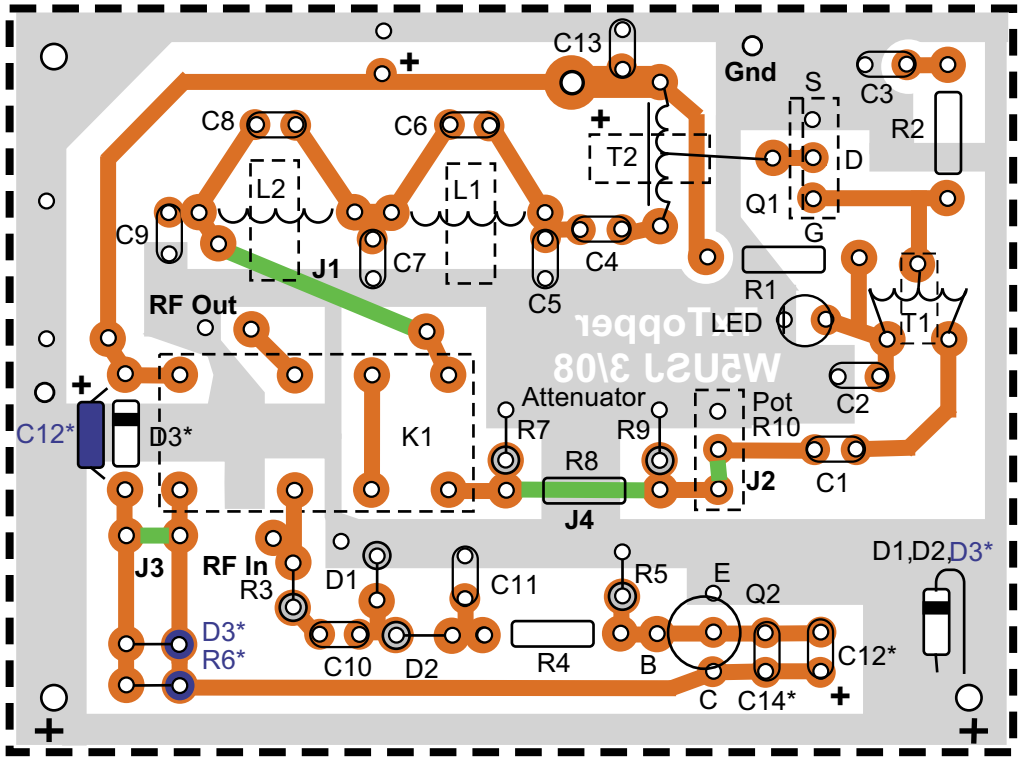
TxTopper QRP Amp Assembly v1b

W5USJ Drawing 6 May '08

Viewed from component side of the board.



Asterisked Parts: Assembled differently for fast or slow T/R

T/R Control

Slow Switch – Install J3 Jumper
Install D3 next to K1 relay
Install C12* and C14 next to Q2
C12, observe polarity
R6 not used

Fast Switch – Do not use J3 Jumper
Install C12* next to K1 relay, observe polarity
Install D3* and R6* at lower left
Use hairpin mounting for D3* and R6*

Attenuators:

Pi dB	R7	R8	R9
0	Install Jumpers		
1	910	5.6	910
2	470	12	470
3	300	18	300
6	150	39	150
10	100	68	100

Or:
R10 – 500 Ohm Cermet Trimmer
Note: Effects input impedance

See List of Materials for Mouser Part Numbers

C1, C2, C3, C4, C11, C13, C14 – 0.1uF mono ceramic
C5, C6, C7, C8, C9 – See Filter Chart
C10 – 0.01uF mono ceramic
C12 – 2.2uF 25V mini axial electrolytic (adjust as needed)
Used with both T/R speeds at different locations

R1 – 1.2k (about 10mA and 2.1V LED bias)
R2 – 12
R3 – 51
R4 – 1k
R5 – 47k
R6 – 100 (used with fast T/R circuit)
R7 to R10 – See Attenuators

LED – 2.1V bias regulator See instructions for test

Q1 – FET
Q2 – 2N2222 (or 2N3904)

K1 – DPDT Omron relay

T1 – 8t #26 bifilar on FT37-43 (~23uH)
T2 – 6t #22 bifilar on FT50-43 (~17uH)

L1 – Iron powder toroid see filter chart
L2 – Iron powder toroid see filter chart

J1 Jumper – Always installed

J3 Jumper – See T/R control

J2, J4 Jumpers – No attenuators install J4 K1 to C1
With Pi attenuator install only J2
With Pot attenuator install only J4

Filters: (all capacitors pF, Kemet 200V, See List of Materials)

80 C5-680 C6-100 C7-1200 C8-220 C9-680
L1/L2, 2.2uH 21t #22 T50-2

40 C5-330 C6-47 C7-680 C8-150 C9-330
L1, 1.2uH 15t #22 T50-2
L2, 0.85uH 13t #22 T50-2

30 C5-220 C6-47 C7-470 C8-82 C9-220
L1, 1.0uH 14t #22 T50-2
L2, 0.75uH 12t #22 T50-2

20 C5-220 C6-27 C7-470 C8-68 C9-220
L1, 0.525uH 11t #22 T50-6
L2, 0.475uH 10t #22 T50-6