

BREMI BRL200 Conversion to Six Metres



by Ian Williams, MØBCG

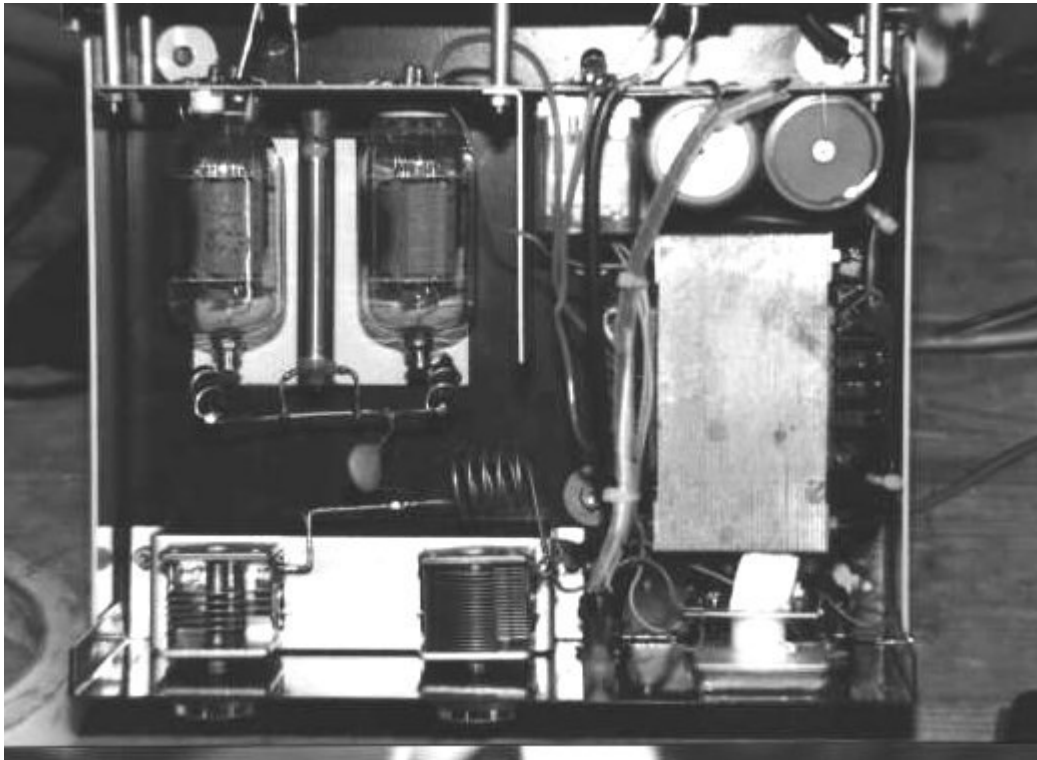
The BREMI BRL-200 is a 27MHz CB amplifier that is widely seen across Europe at rallies etc. It uses two 6JB6A pentodes and can easily and quickly be converted to 50MHz.



An external view of the BRL200.

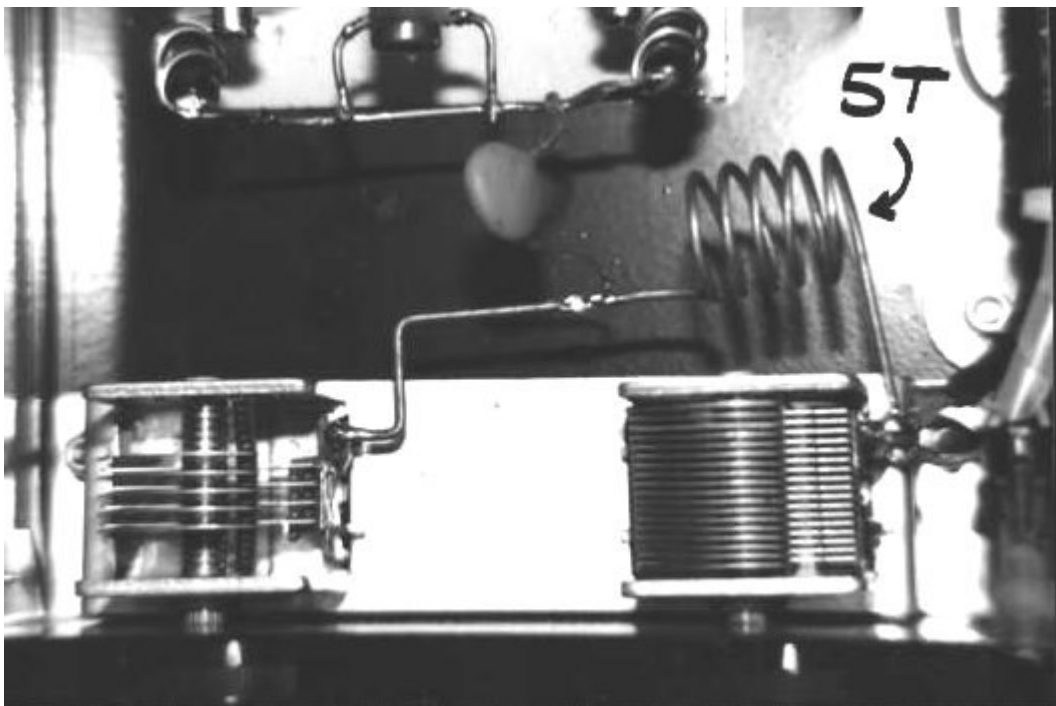
Conversion

1. Remove the 2 x 82pF input tuning caps and replace the one on the right hand side, which faces vertically, with a 22pF mica dipped cap of 350V rating. Discard the other 82pF capacitor, which was fitted on the left-hand side of the trimmer capacitor
2. Remove the input coil; reduce it from six turns to three turns and solder it back in (see picture).



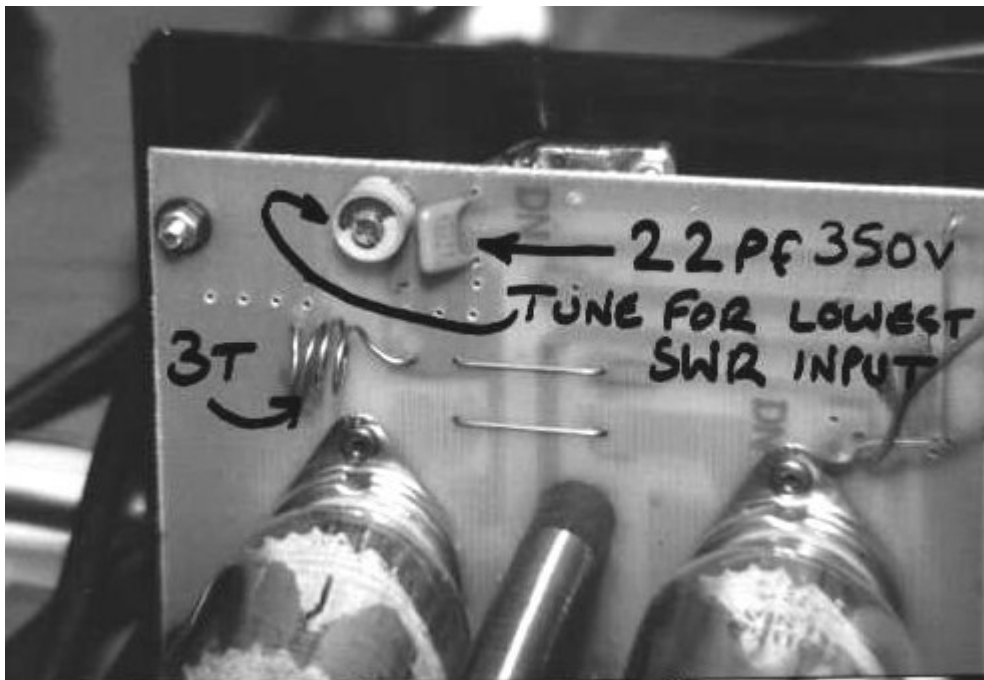
The inside of the BRL200, viewed from above.

3. Remove the plate loading coil and make new one (or cut down the original) with the same diameter but with five turns (the original was 13 turns).



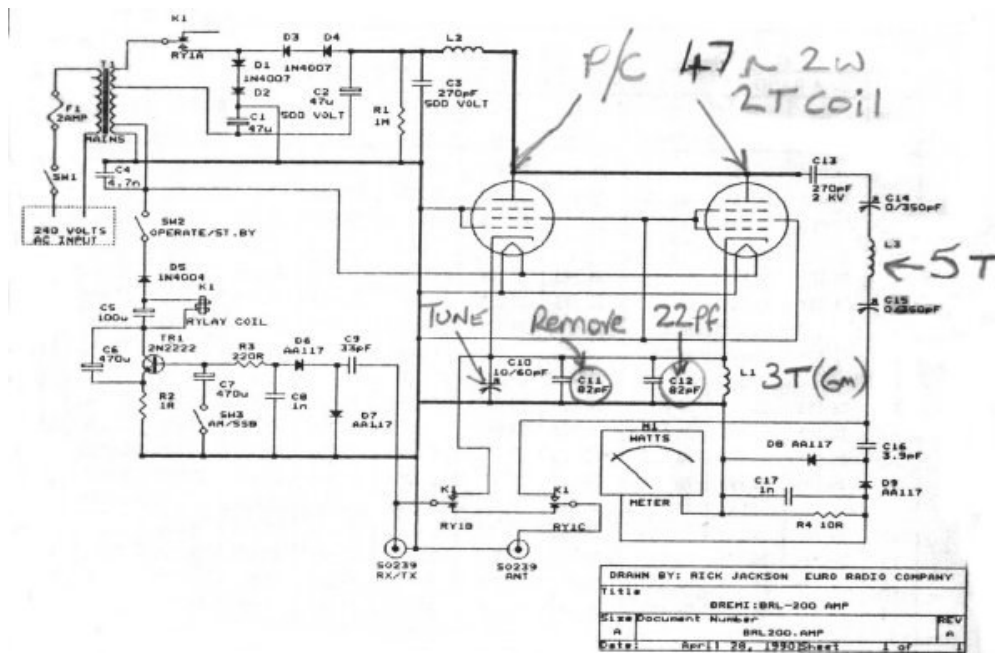
The output circuit, showing the modified plate loading coil.

4. To get the best through-SWR, use an SWR meter at the input to the amp and, with a dummy load on the output, tune the preset trimmer capacitor next to the 22pF cap to give a minimum SWR value at 50MHz. This will be about 1.3:1 because of to the relay mismatch but I found it perfectly OK with my IC-706 Mk2G.



The input circuit, on the main PCB adjacent to the valve bases.

5. The amp has no parasitic chokes, although mine was very stable at six metres when tuning it up and it didn't show any signs of self-oscillation. But I did fit some chokes myself just for peace of mind, using 47-Ohm carbon compound resistors (one in each anode) each with a two-turn coil around the resistor body. It's a little hard to position the chokes but they don't cause any problems in operation.
6. I also fitted an 80mm diameter Papst fan above the valves to aid cooling, as this amp has no fan at all. I powered the fan from the 12V meter lamp supply, from the PCB behind the meter on the right hand side of the amp.
7. This is an RF-switched amp and requires six watts minimum to activate the relay circuit. You will get around 50W output for 6W input. At 12W drive you get 100W out and with 25W drive 160W out. If you dare go higher, up to 50W drive, you will see 200W on a PEP meter but I think this is excessive drive if the amp is to last any amount of time. It will probably melt the anode caps (as G3SNN told me, hi), so take good care not to get it too hot.
8. You can fit a phono plug to the rear of the amp and wire it to the relay for hard PTT operation.
9. The amp operates on 240V AC.



The circuit for the BREMIBRL-200, with MØBCG's modifications marked.

Don't forget that there are high voltages in this amp, so don't work on it with it connected to the mains supply and let it stand for five minutes after unplugging it before touching it internally, just in case.

It took me 40 minutes to modify. It's not everybody's idea of a high-class six-metre amp but it was so easy to do I thought anyone could do it and it makes a change from working on my cramped Heathkit SB220. All you have to do is pull off the lid and you can get at it with a soldering iron.



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