

Heath's HA-202 Goes to 220 MHz

— power up with this simple mod

Kent Britain WA5VJB
5809 Stageline
Arlington TX 76017

Do you enjoy 220-MHz operation but find you don't have the power to access those few-and-far-between 220-MHz repeaters? I

did, and since I couldn't afford a new amplifier, I decided to experiment.

This is an easy modification to an inexpensive piece of equipment and will give you what you need in those fringe areas. More time will be spent taking off and put-

ting on the case than on the changes themselves!

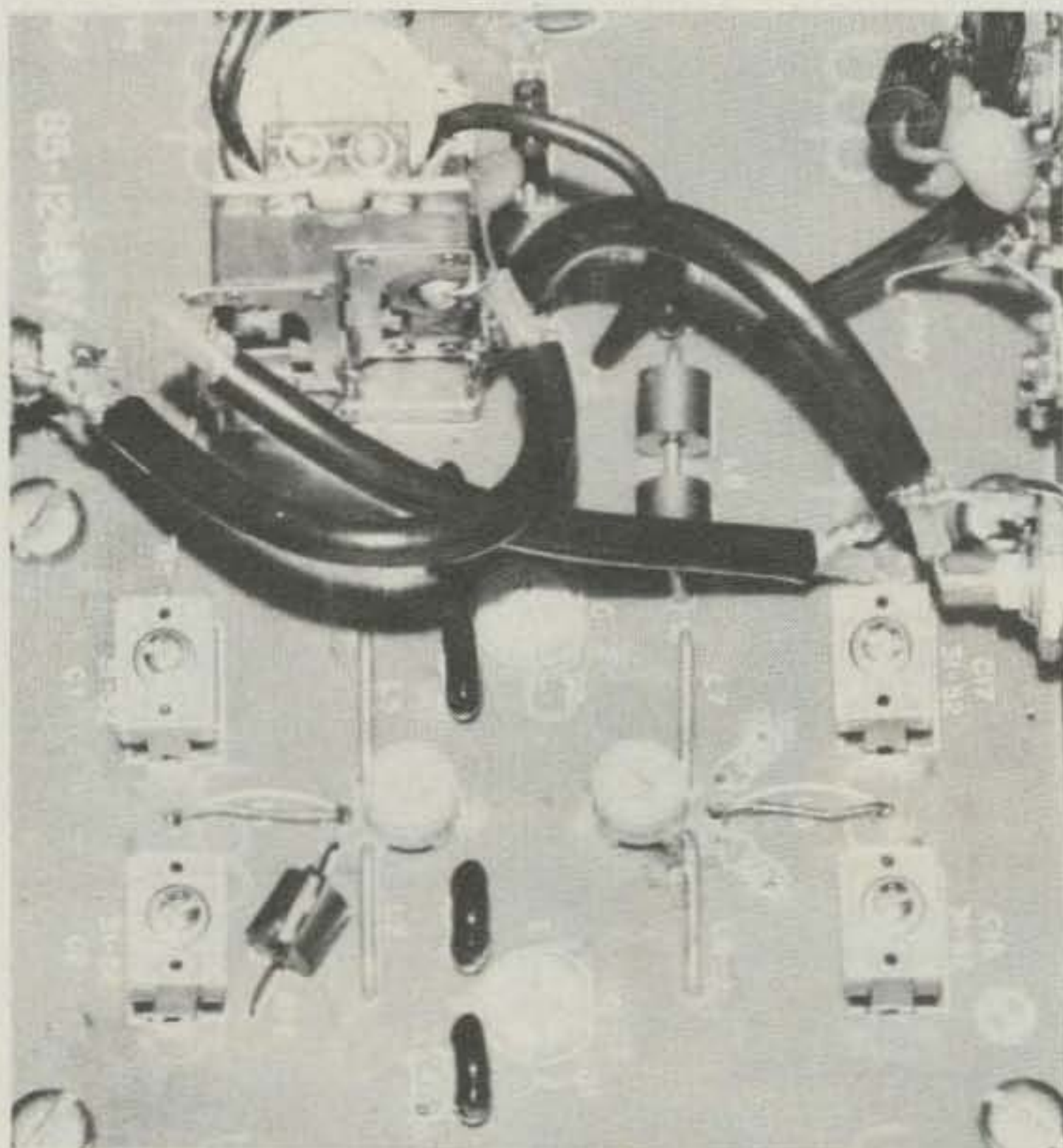
The HA-202 two-meter amplifier can be turned up at swapfests for about \$40. The more recent HA-202A uses a different output circuit and requires a more extensive modification which is not covered by this article. The HA-202 is used because its 2N5591s are usable to 250 MHz.

Before this modification can begin, the PC board must be exposed. To do

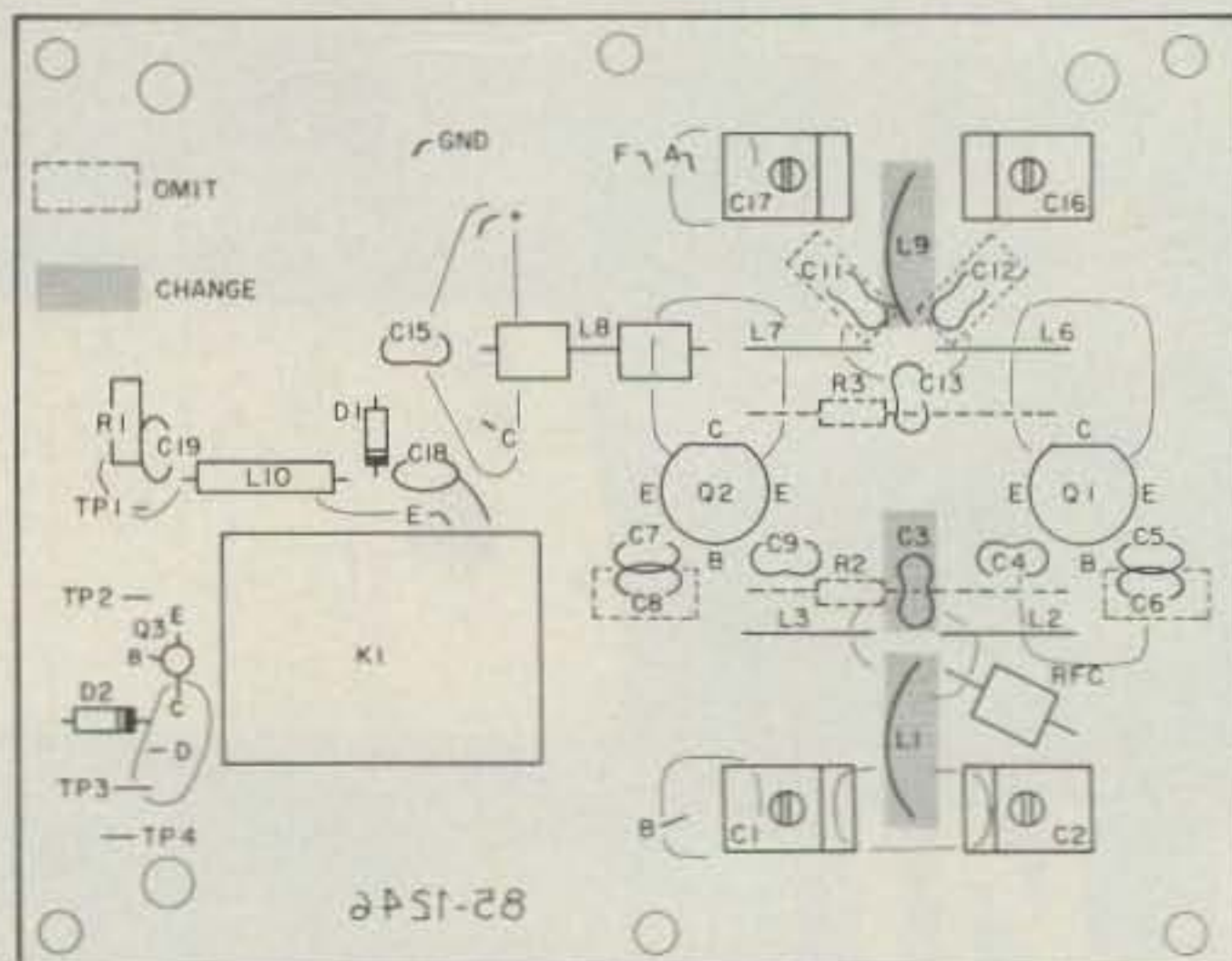
this, perform the following steps in order!

- 1) Remove the C-shaped cover.
- 2) Remove the two nuts securing the power transistors to the heat sink.
- 3) Remove the six bolts securing the heat sink, sides, and the PC board.

To begin the modification, refer to Fig. 1. Remove L1, C3, C6, and C8 from the input circuit. On the output circuit, remove L9, C11, and C12. Save C12 for later use.



The completed modifications for 220 MHz.



(VIEWED FROM COMPONENT SIDE)

Fig. 1. Component location.

Now replace L1 and L9 with a 3/4" piece of straight wire (similar to L2 and L3). Next, use a 22-pF capacitor you just removed from C11 or C12 to replace C3.

Since the case is already off, now's your chance to install a disaster-preventing reverse-polarity protection diode from B+ to ground just inside the case (see Fig. 2). Just about any silicon diode rated three Amps or larger will work. Be sure that the cathode band is connected to B+.

If you're like me and have just got to get that extra Watt out of an amplifier, then use a 5-to-30-pF ceramic trimmer in place of C3 and C13.

Now reinstall the PC board, but do not replace the C-shaped cover. Tune your HA-202 for maximum output starting with the output section. Typically,

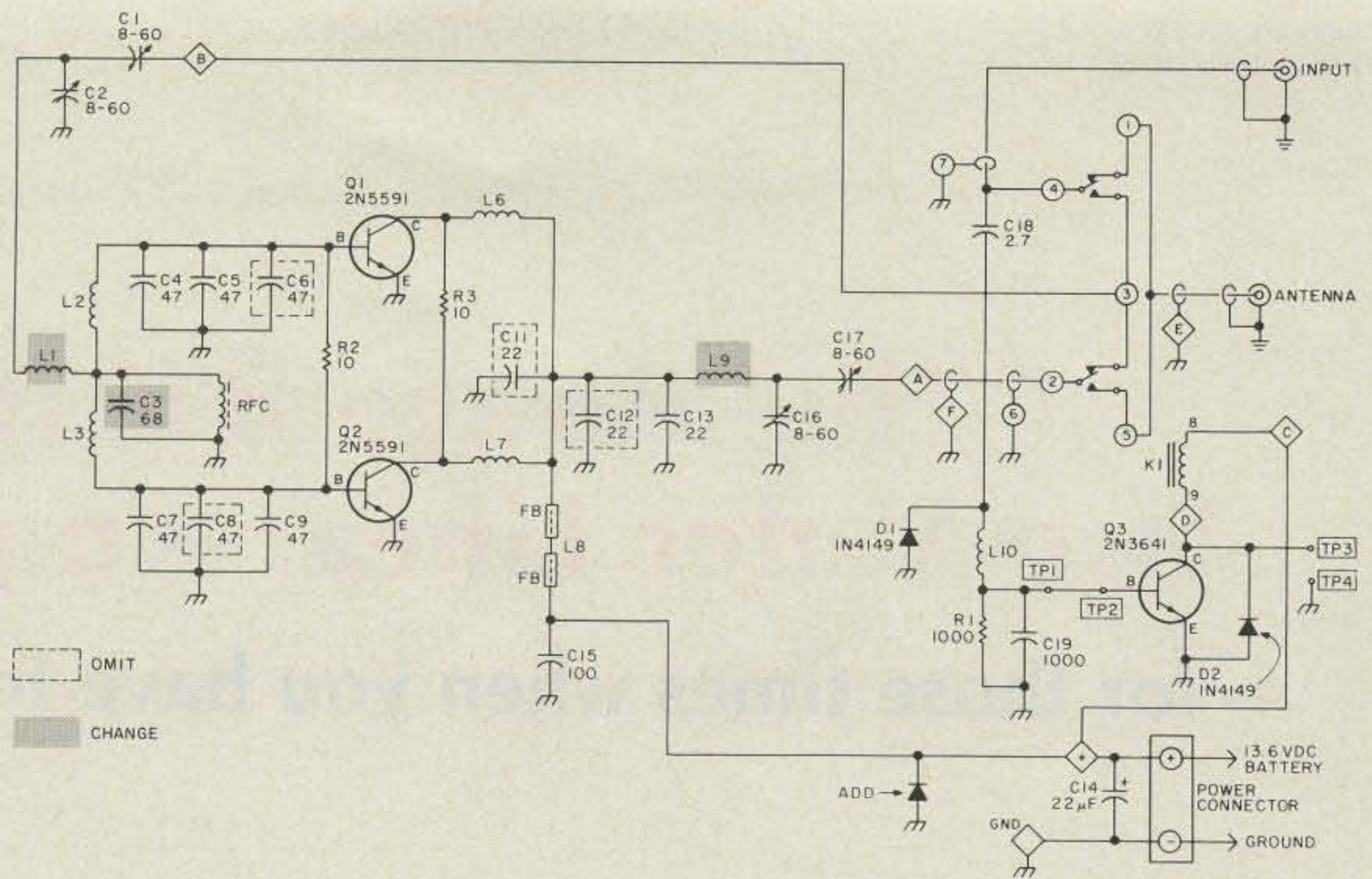


Fig. 2. HA-202 amplifier schematic.

the HA-202 produced 40 Watts out with 10 Watts of drive on two meters. On 220 MHz there is a slight reduction in output power, but

you can still expect 30+ Watts out.

My thanks to WB5WRR for confirming that this modification is an easy, in-

expensive way to generate some power on 220 MHz. Also, my thanks to KA5GWL for knowing how to put words together. ■

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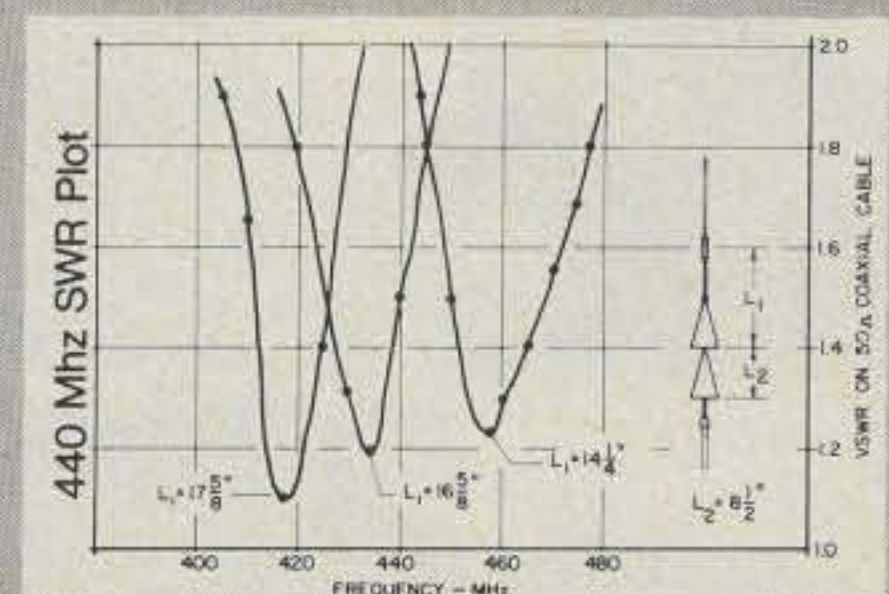
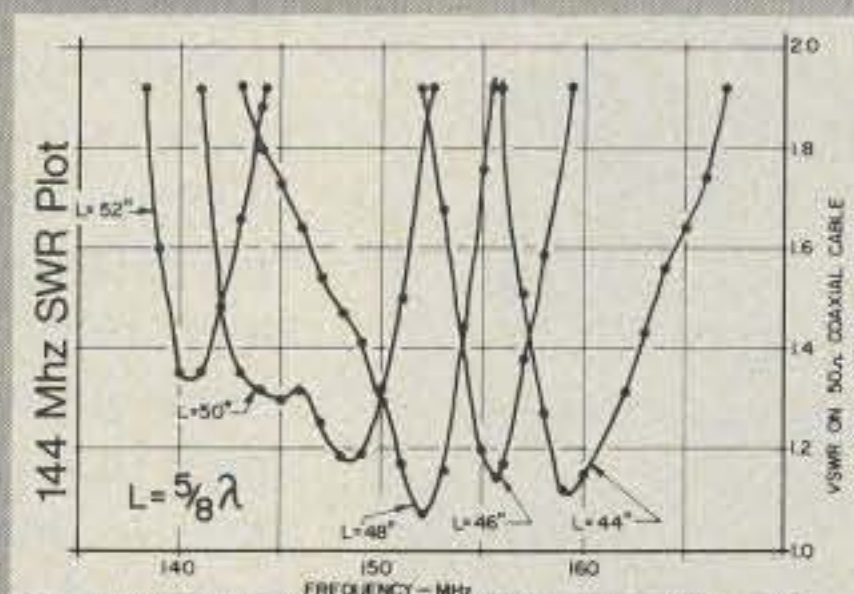
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