

## ANOTHER R.109A MODIFICATION

### POWER SUPPLY FROM THE MAINS

From Notes by J. BELL (G3JON)

IN the August 1962 issue of SHORT WAVE MAGAZINE there appeared an article on the R.109A surplus receiver, discussing various ways in which it could be modified.

As regards the problem of operating the set from the mains, those who run an R.109A might be interested in a modification devised by G3JON (Sheffield). The effect of this—the circuitry being

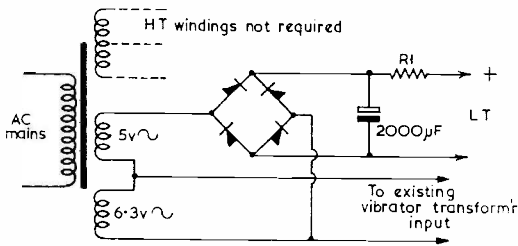


Fig. 1

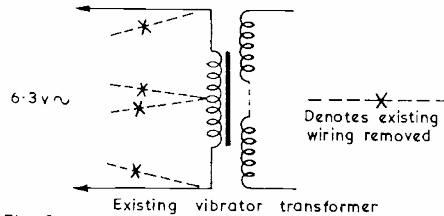


Fig. 2

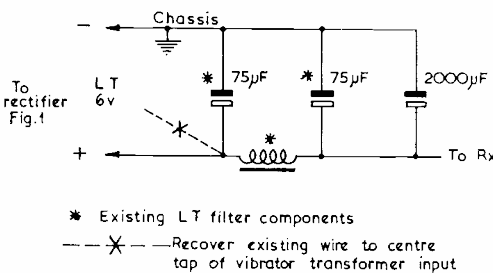


Fig. 3

R 377

Sketches to illustrate the power supply modification explained in the text. It enables the R.109A to be run from an AC mains supply.

shown in Figs. 1, 2 and 3—is not only to get DC for the valve filaments (Fig. 1), but also to eliminate altogether the vibrator pack in the receiver HT section (Fig. 2) by feeding low-voltage AC to the Rx power transformer. In Fig. 3 is shown the LT connection to the DC rectifier circuit of Fig. 1.

The components needed are: Small Rx-type mains transformer with 6.3v. and 5.0v. secondaries, HT windings not required; 6-volt 2 amp. rectifier; and two 12v. high-capacity condensers of about 2000 µF. If not to hand, these can all be "Radiospares" items, obtainable through dealers, or otherwise by shopping around the usual surplus sources. The circuit is as Fig. 1, with the 6.3v. and 5.0v. windings in series, and R1 must be adjusted so that the LT output is exactly 6v. on load; this is easily done by juggling with some resistance wire.

On the HT side, Fig. 2, the existing wiring to the primary filter circuits should be removed and the vibrator taken out. The HT rectifying circuit on the secondary of the receiver's own power transformer remains as-is, and supplies the receiver as it would do with the vibrator input. No other wiring needs to be disturbed and the bias produced by the HT—line comes up as in the original.

Elimination of the vibrator has the important advantage of cutting out any hash background, and with this HT modification the receiver will be found to be absolutely quiet. The R.109A performs well, and is a very good buy at around £3 on the surplus market. The proposed modifications (including that for Top Band suggested by G3NJQ), make it even more useful, as it then covers the three LF amateur bands, and operates directly off the mains. Of course, by modifying for mains operation exclusively, it means that the receiver becomes unsuitable for portable work with a battery supply—no doubt, however, the input circuitry could be so arranged that both facilities are retained.



" . . . I told you it's better not to try winding your own coils . . . "