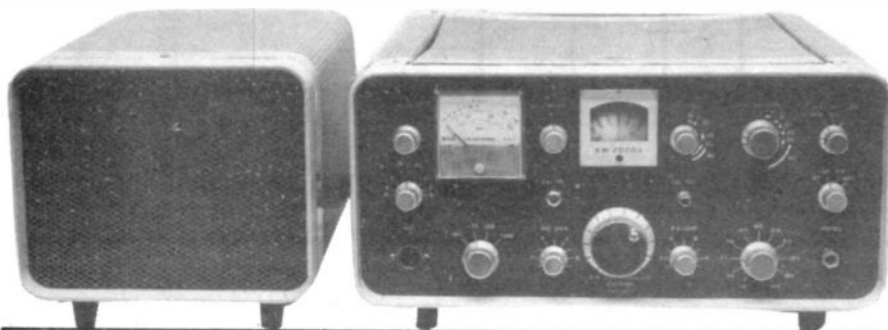


Upgrading the KW2000 series of transceivers—



Part 7

Simple RF attenuator design plus switching circuitry for an 'outboard'

receiver and separate 'transmit' and 'receive' aerials.

By Malcolm Healey, G3TNO, and R. Charles.

After the foregoing articles in this series, a number of small refinements remained on the list of desirable extras worth incorporating in our KW2000 series of transceivers update. These were (1) To be able to use a separate outboard receiver for split frequency operation; (2) To be able to

use separate aerials on 'receive' and 'transmit'. For example, when operating on 160 metres it is useful to use a loop aerial on 'receive' in order to null out QRM, particularly when chasing DX; (3) To have the facility to switch in an RF attenuator on 'receive' when using large aerials.

This is particularly useful on the lower frequency bands ie 7 and 3.5 MHz where the receiver front end on the KW 2000 has been found to be prone to RF overload on largish arrays such as Vee beams or very long wires.

The above modifications can be achieved very simply. All or part of the modification may be readily incorporated, depending on your own needs.

Fig. 5000 shows the circuit details. Switch 5000 is fitted inside the case of the KW 2000 an approximate 2¼ inches to the left of the IRT/ITT switch and in line with the existing cab/set control. Switch 5000 is the attenuator control switch. The user must select the value of the attenuator to be fitted as this largely depends upon the type and size of aerials in use. Fig. 5000 gives resistor values and attenuation values up to -40dB which, unless you have stolen the aerial system at BBC Daventry, should more than cover most amateur uses!

The switching circuitry for alternative aerials and an outboard receiver has been fitted outside the KW 2000 itself, as this gives greater flexibility. At G3TNO this was incorporated in the station control and switching unit, which also controls the switching of the station aerials. Only the circuitry relevant to the modification is shown (see Fig. 5001).

After incorporation of the above modifications, in particular that of the RF attenuator, it is really amazing to hear the improvement in reception on, say, the extremely crowded 7MHz band after dark. Much DX that just

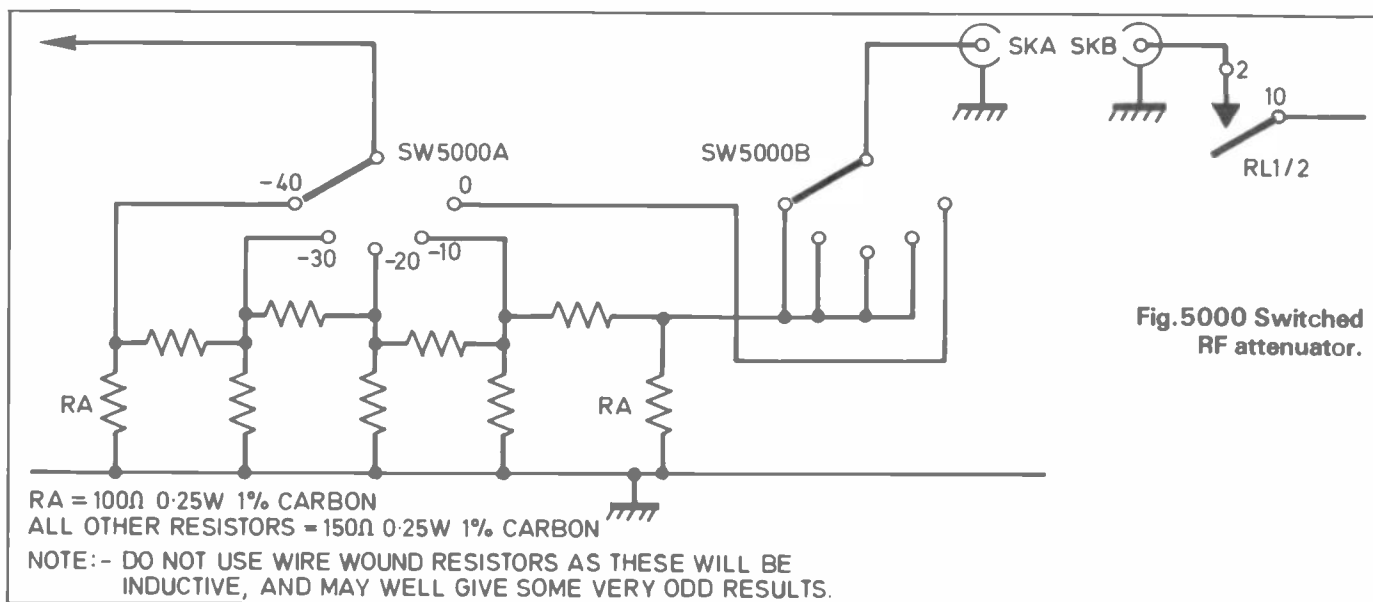


Fig.5000 Switched
RF attenuator.