

of this modification will be given in a subsequent issue.

The analogue heart of this synthesiser is the VCO, transistor Q9 in Fig 4. Many experiments were done on this part of the circuit in attempts to get the best oscillator noise performance coupled with the wide frequency range demanded by the transceiver. To cover the basic HF

spectrum of 1 to 30MHz requires that the VCO, the local oscillator input to the Schottky ring mixer, sweeps from 10 to 39MHz, a range of nearly 4 to 1. In theory the KV2225 (VC2) tuning diodes could provide the capacitance swing but the oscillator performance at the low frequency end would be marginal to say the least. Furthermore, the digital part of the

synthesiser can run clean up to 100MHz (91MHz signal frequency) and I wanted the analogue part to match it. There was no way that a VCO could be made to run from 10 to 100MHz without band changing. The net result of all these deliberations was a compromise. The VCO covers the 90MHz span in three ranges switched by reed relays driven

