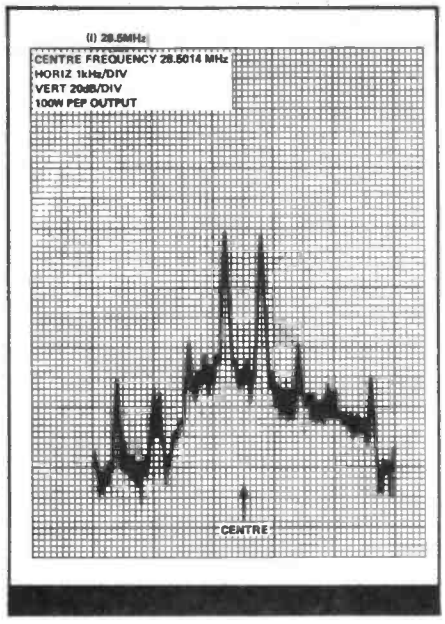

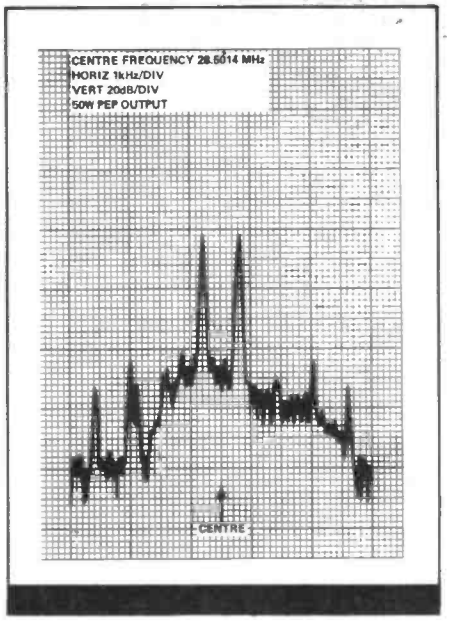

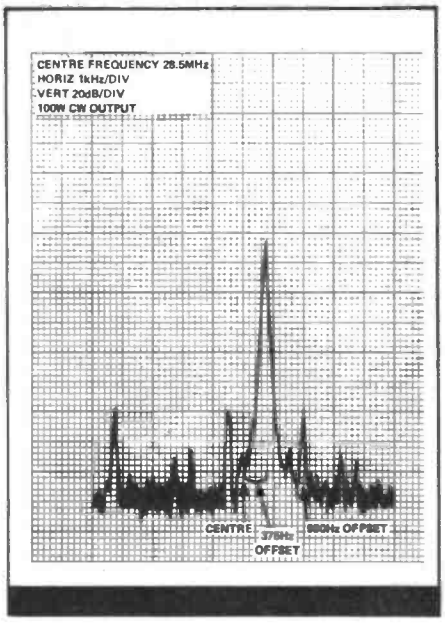

(5-5.5MHz). On bands below 14MHz the 13.715-14.25MHz output is applied straight to the PLL mixer, while above 14MHz a second premixer takes this output together with a 10MHz (14-21MHz) or 20MHz (above 21MHz) signal, before delivlery to the PLL mixer. It should be noted that considerable bandpass filtering takes place at all stages in this signal chain.

Moving on to the second I.F. injection, the 8.67MHz signal is produced by mixing the 19.215MHz vxo with another 10.54MHz vxo (frequency set by the width control). This latter signal is also mixed with an 11MHz signal in the third mixer to give the 455MHz I.F., allowing the Shift function to tune the second local oscillator, while the width function synchronously tunes both the second and third local oscillators.

The VFO is a little unusual in that it uses a custom i.c. rather than discrete devices. Certainly the stability of the whole system is excellent, with only very slight warm-up drift apparent.

The FT102 on the air

During the period of review, the transceiver was used on all bands available, with the accent on the receive function, as this is basically the more important end as far as most people are concerned. The review sample had one strange fault on the 7MHz band — above 7.3MHz the PLL system unlocked with loss of tuning. This problem was not apparent on any of the other bands, or on two other 102's quickly checked.

With all the facilities available for rejection of interfering signals, there was little QRM which could not be disposed of or reduced considerably by a combination of the shift/width and audio notch functions, except for interfering signals very close to the wanted signal. A Datong FL3 Multimode Filter, which is supposed to perform as well as this type of shift/width system was also tried as a comparison.

There is no doubt that the Datong filter was more effective than the FT102 system, very noticeably so with very close QRM, indicating that the audio filter skirts were steeper than those of the shift/width system. The manual states that the two shift-width controls should normaly be aligned upright, but this resulted in an obvious offset between USB and LSB — about 30 degrees offset towards the LSB side seemed about right. With the bandwidth narrowed to any great degree, the high frequency noise generated seemed in excess of what one would normally expect.

The noise blanker system did all that was claimed for pulse type interference, and the dreaded Woodpecker, mostly eliminating this completely when the correct pulse blanking width had been found. As might be expected, it had no effect on static type noise, and the addition of a straight limiting system or a threshold adjustment would have helped. Again, not unexpectedly, at higher signal strengths the blanker also chopped received signals, at times making them unreadable.

The antenna system used was a