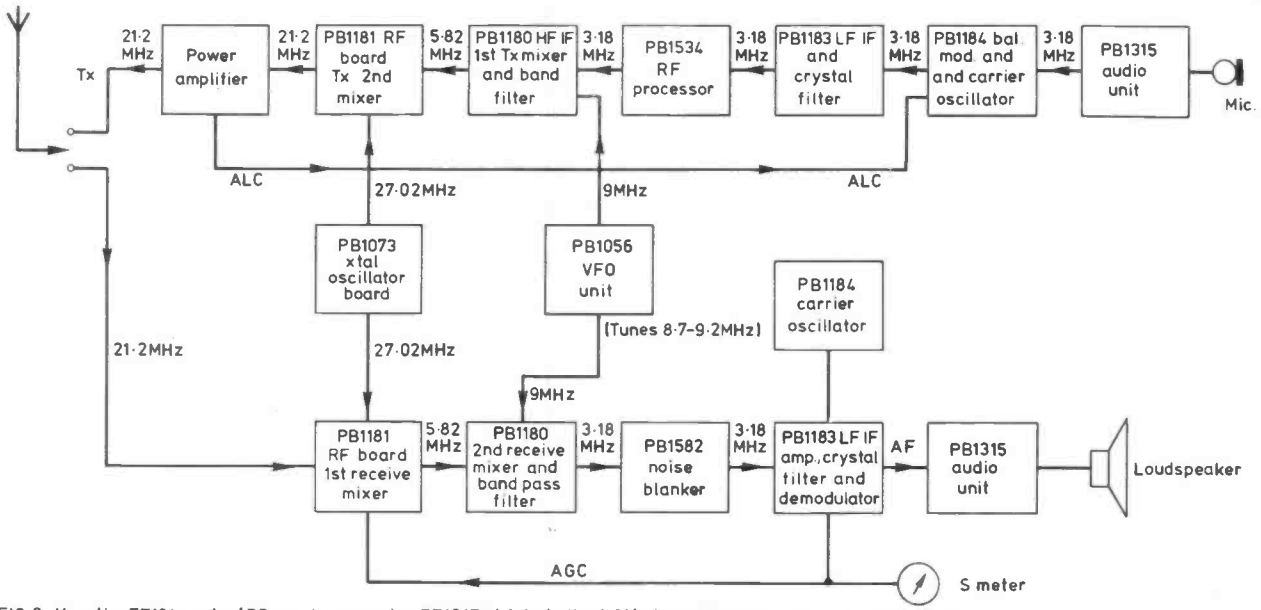

FIG. 2. How the FT101 works (PB numbers are for FT101EMk3 but all FT101's from Mk1–E use same basic set up) Units shown transmitting and receiving at 21·2MHz.

3.18MHz dependent on which sideband has been selected. These two sidebands are applied to PB1183 where the wanted side band is amplified, the unwanted sideband being suppressed by the crystal filter.

The 3.18MHz SSB signal then passes via PB1534, the RF processor, to the mixer unit PB1180 where it is mixed with the output of the VFO to provide a signal at some frequency between 5.520 and 6.020MHz, any mixer products outside this range being suppressed by the band pass filter.

This SSB signal (in the illustrated case at 9−3.18 = 5.82MHz) is applied to the second transmit mixer on PB1181 and is mixed with the output of a crystal oscillator whose frequency is selected by the band switch. In this instance 27.02MHz is selected producing the difference frequency (27.02−5.82 = 21.2MHz) at the input of the radio frequency power amplifier. This signal is then raised to a level of approximately 150 watts PEP by the driver and power amplifier valves, and is applied through the aerial changeover relay to the PL259 socket on the rear of the rig.

The Receiver Mode

The in-coming signal at 21.2MHz is applied via the aerial changeover relay to the RF board PB1181. Here it is amplified and mixed with 27.02MHz coming from PB1073 the crystal oscillator board. The output of the RF board is the difference between 21.2 and 27.02. Hence 5.82MHz is applied to the second receiver mixer via the band-pass filter. the VFO can be tuned from 8.7 to 9.2 MHz to convert any signal in the range of 5.520 to 6.020MHz to the second IF frequency of 3.18MHz. In this case it is tuned to 9MHz (9−5.82 = 3.18) to produce a signal for feeding to the noise blanker circuit.

PB1582 or its equivalent on earlier models is intended to reduce the effect of impulse type interference. Yaesu has swopped and changed with the noise blanker circuitry on the *FT101* considerably, but have never really got it to work well. If used as originally intended in a mobile location with S9 + 20 QRN from one's own engine, it does help, but even the elaborate version on late *FT101E*, which uses an extra stage to convert the noise to 450kHz does not seem to help much on the type of noise encountered on the