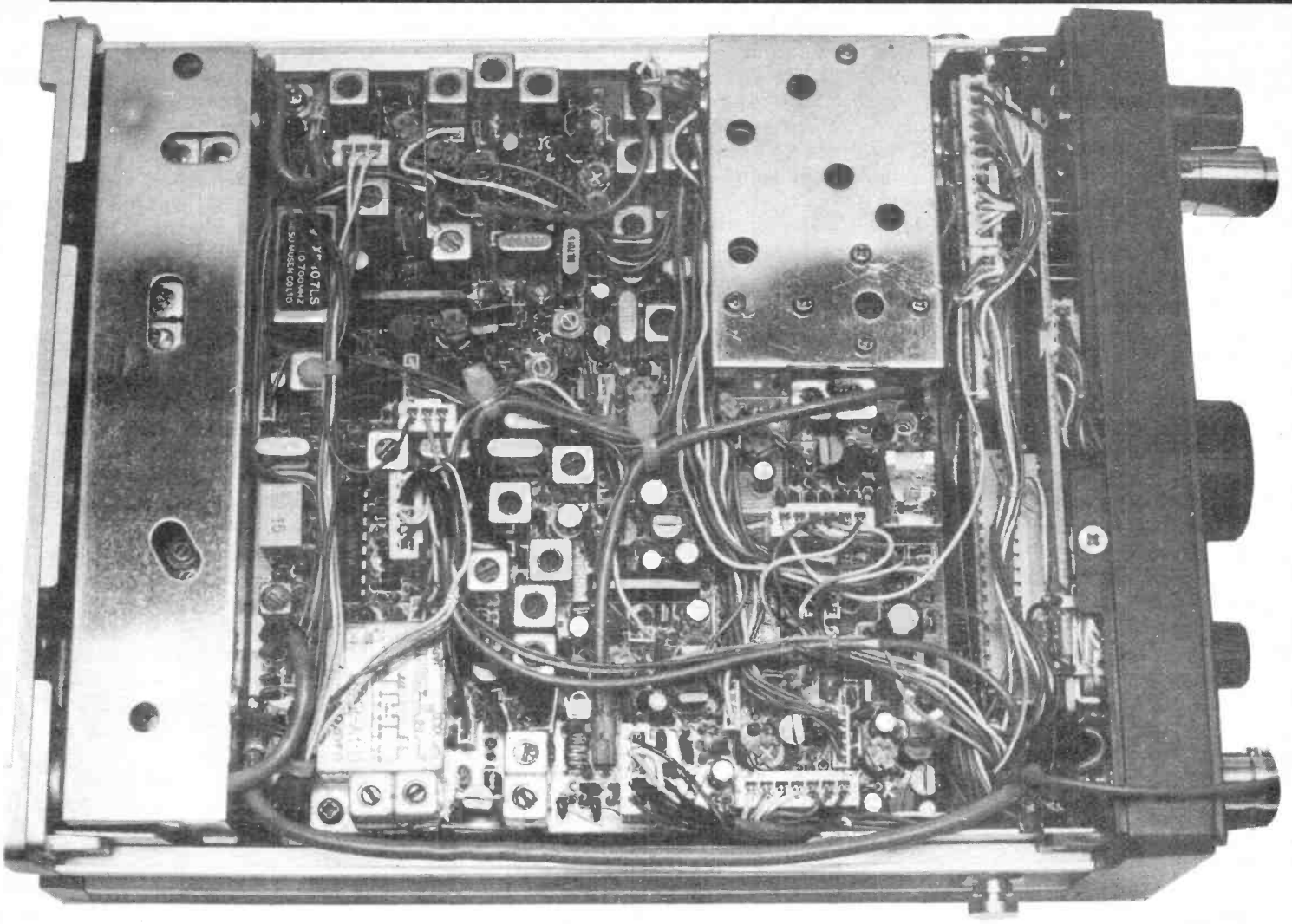

With so much crammed into a small space it has the appearance of a serviceman's nightmare.

gested — ?) the other for external speaker (8 ohm).

Delving inside the case, in addition to the scan halt control switch, we find further switches for the tone squelch option, the memory backup, and an audio speech compressor for both SSB and FM. The manual states that when the latter is used the "average power in the SSB mode will be increased with some loss of fidelity" — a strange admission for a manual! It didn't in fact seem to make a great deal of difference so was left on during the review period.

A 1/2 wavelength (13" actual) rubber ducky came with the rig, and certainly put out a useful signal.

A small S-Meter cum Battery check/power output is provided on the front panel. The only point worth noting is that the S-Meter has an extremely long time constant compared with most.

The Circuit

The receiver circuit is fairly conventional, with double or triple conversion, depending on the mode. The input is well protected against out of band signals by a low-pass filter, and 2 helical resonators, one each side of the RF amplifier. After conversion to the first i.f. of 67.3MHz, bandpass filtering follows, then conversion to the 10.7MHz 2nd i.f. A matched pair of 30kHz bandwidth monolithic crystal roofing filters, between which a signal sample is taken for the noise blanker, follows, finally routing the signal to one of two i.f. amplifiers, dependant on the mode in use.

The noise blanker uses an amplified signal from between the two filters, which is rectified and used to switch off both the alternative i.f. amplifiers for the duration of the noise pulse. A portion of the amplified noise is also rectified and used as blanker agc.

The first local oscillator is derived from a VCO running at approximately 120.9-124.2MHz, which is then tripled and filtered, prior to mixing with the incoming signal. The same VCO is used at its fundamental frequency in a PLL mixer, also fed with a 119.225MHz signal from a crystal oscillator. The output from this mixer at 1.666-4.997MHz is fed to a programmable divider, instructed by a 4-bit control unit, which looks after the various options discussed earlier, and the output compared with a 4.266MHz reference signal (this reference oscillator, the divider, latch and phase detector are all in one chip). Any phase difference is used to control a varactor diode which shifts the VCO to correct the phase difference. In case the phase difference exceeds the control range, an unlock signal is generated which biases off both the receive and transmit circuits.

FM signals undergo a third conversion to 455kHz in a ubiquitous MC3357 chip, then final selectivity via an LFH-15S ceramic filter (15kHz @ −6dB), before limiting amplification and detection via the