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This little receiver tunes the medium and long wave-ranges. It operates without any coils by employing a synchronised oscillator.

When the oscillator is barely able to maintain oscillations, it will synchronise to an incoming signal frequency close to its free-running value. The amplitude of

the oscillation follows, more or less linearly, the modulation of the incoming signal. The circuit can synchronise itself to a signal of some tens of microvolts, so that its effective sensitivity is very high.

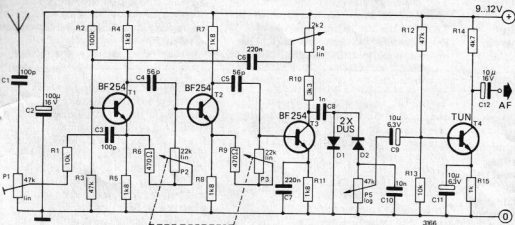
P4 sets the level of oscillation; the stereo-ganged pair P2 and P3 form the 'tuning' control. Since this stereopotentiometer covers a very wide range it may be necessary to add a 'fine' control consisting of a low-value stereopotentiometer in series (typically 1 k or

500 ohm).

The modulated oscillator signal is passed to the amplifier stage with T4, via the full-wave 'detector' with D1 and D2.

The output level is sufficiently high for driving most amplifiers.

A short aerial, such as a piece of wire, is enough to provide quite reasonable reception. If a good aerial is to be used, P1 can be inserted to prevent over-driving by too strong a signal.



**sensitive
coil-less
synchrodyne
receiver for
MW and LW**

