

amplifier is used the intermodulation threshold will be reduced to 3mV r.m.s. (since the SL610C has a gain of 10). The SL640/41 is then less attractive as a mixer and a diode ring mixer should be used.

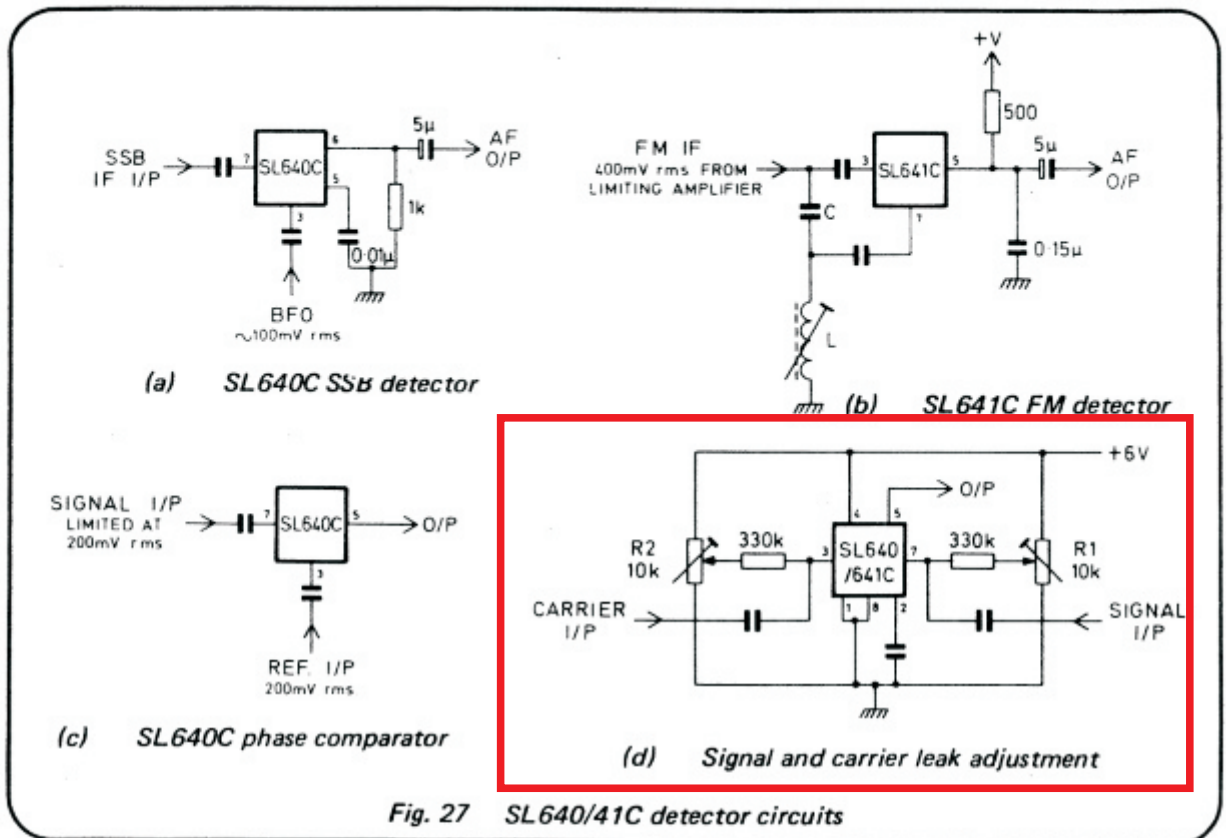


Fig. 27 SL640/41C detector circuits

Fig. 27a shows the SL640C used as an SSB detector. The capacitor connected to output pin 5 decouples the sum frequency $|f_1 + f_2|$, while the audio difference frequency $|f_1 - f_2|$ is taken from pin 6. An FM detector is shown in Fig. 27b but the function is better performed by a Plessey Semiconductors .SL624C integrated circuit, which has its own limiting amplifier. The phase comparator shown in Fig. 27c is more useful – it may be used as a detector for phase modulated signals or as a comparator in phase-locking systems such as frequency synthesisers.

Signal and carrier leak may be reduced by altering the bias on the carrier and signal input pins, as shown in Fig. 27d. With carrier but no signal R1 is adjusted for minimum carrier leak. A similar network is connected to the carrier input and with signal and carrier present, signal leak is minimised by means of R2.

Fig. 28a shows the SL640C or SL641C used as a sideband generator. Both sidebands are produced so that if a single sideband is required it must be obtained by subsequent filtering (Fig. 28b). If pin 2 is earthed by a resistor of about 15kΩ (its actual value may