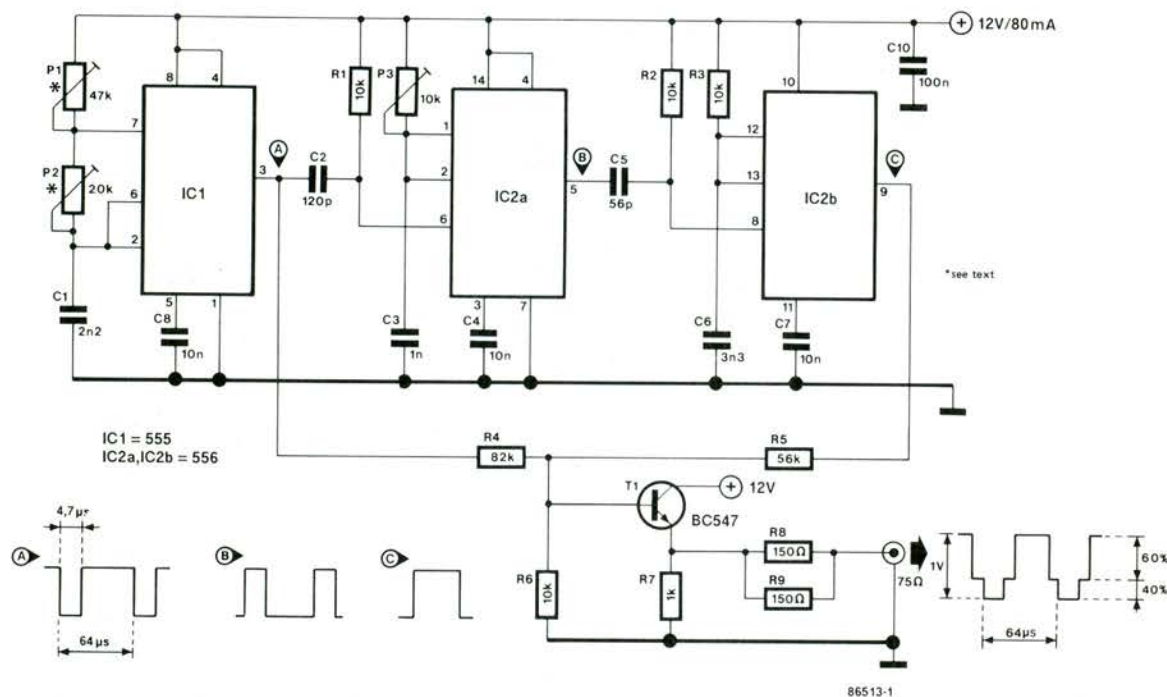


A B Bradshaw

25 line bar generator



The video signal transmitted by most TV broadcast stations is rather complex. For most tests and experiments, however, a fairly simple signal will suffice. The circuit presented here provides a small, inexpensive source of line synchronizing pulses and line bar.

The first of the three timers in the diagram provides $4.7 \mu\text{s}$ sync pulses. It is arranged as an astable multivibrator with a period of $64 \mu\text{s}$. The rising (here: negative-going) edge of the sync pulse triggers a second timer. The width of the output pulse of this timer determines the position

of the line bar. The line bar proper is provided by the third timer. To obtain a usable video signal, the sync and bar signals must be added, which takes place in R_4 - R_5 - R_6 . The resistor network is followed by a buffer that ensures an output impedance of 75 ohms. The unit can, therefore, be connected direct to a standard video input. The sync and bar signals occupy 40 per cent and 60 per cent of the composite signal respectively. Calibration is carried out by connecting the unit to a monitor or, via a modulator, to a normal TV receiver. Presets P_1 , P_2 , and P_3 are set to the

centre of their travel. Turn P_1 to obtain a still picture. If the sync pulse is too wide, it will be visible at the left-hand side of the picture. The pulse may be narrowed with the aid of P_2 , after which P_1 may need a small re-adjustment.

Where an oscilloscope is available, P_2 can initially be set to obtain $4.7 \mu\text{s}$ pulses at the output (pin 3) of IC1. Then, the total period is set to $64 \mu\text{s}$ with the aid of P_1 .

The line bar is centred with P_3 : as its width is fixed, this completes the calibration.