



ough to avoid frequency jumping with various loads. This device is only intended for use on a fixed frequency and there is no varicap sensitivity or linearity correction. Calculation for this circuit suggests distortion at full deviation of less than 0.5%. For a fully tunable generator with calibrated attenuator the coder could be fed into the wideband modulation input of the Sound Technology FM1000 signal generator.

On stereo it is important for the deviation to be set correctly. Without an analyser or deviation meter the best way is to measure the pilot tone level before deemphasis when tuned to a BBC stereo station transmitting silence. They tune to the frequency selected for the oscillator and adjust its deviation to produce the same voltage. All the BBC stereo stations I can receive have pilot deviations within 1.5dB of Wrotham Radio 3. The output from the oscillator at around 60mV is adequate to feed a passive distribution system or with coaxial attenuators it can be used for receiver checking. Thirty decibels of attenuation (at 1.9mV) will still keep any reasonable f.m. receiver in full

▲ Fig. 14. Modifications to the Portus and Haywood decoder to improve both distortion and channel separation. Faster switching times and high gain transistors in the matrix with a different input amplifier arrangement give 1kHz distortion better than 0.04%. Voltage levels of points A, B and C can be either +12, +6 and 0V or +6, 0 and -6V respectively.

quieting on stereo while a further 6dB attenuation (685mV) will quieten a good tuner.

Fig. 15. Stereo decoders proved susceptible to noise on the supply line and filtering is needed to measure signal-to-noise ratios much above 60dB. Regulator should be mounted out of the transformer's magnetic hum field. 2000µF capacitor should have low internal resistance. ▼

