

CMOS third-method ssb generator

Chris Bartram, G4DGU, notes that the various "filterless" ssb generators that have been described recently in *TT* have shown some ingenious adaptations of standard bipolar-type integrated circuits. But the ic analogue double-balanced modulators mostly require at least two balancing adjustments. And when such techniques are employed on a third-method exciter this leads to a multiplicity of preset pots!

He has found that at low frequencies (ie suitable for the audio side of a third-method exciter) there is, for once, a satisfactory answer in the CD4016 cmos quad bilateral switch devices. In a vhf "third method" ssb generator that he is currently developing, G4DGU obtains 60dB of carrier suppression with no adjustment, and a single preset potentiometer can be adjusted to give a signal leak for both channels of about -50dB!

When using cmos devices for the "clock" (CD4001), the digital phase-shifter (CD4027) and for the modulators (CD4016), the total cost of the devices required in the audio section of the generator is about £3.50. This arrangement is outlined in Fig 1, which also includes the simple active filter used in the af board.

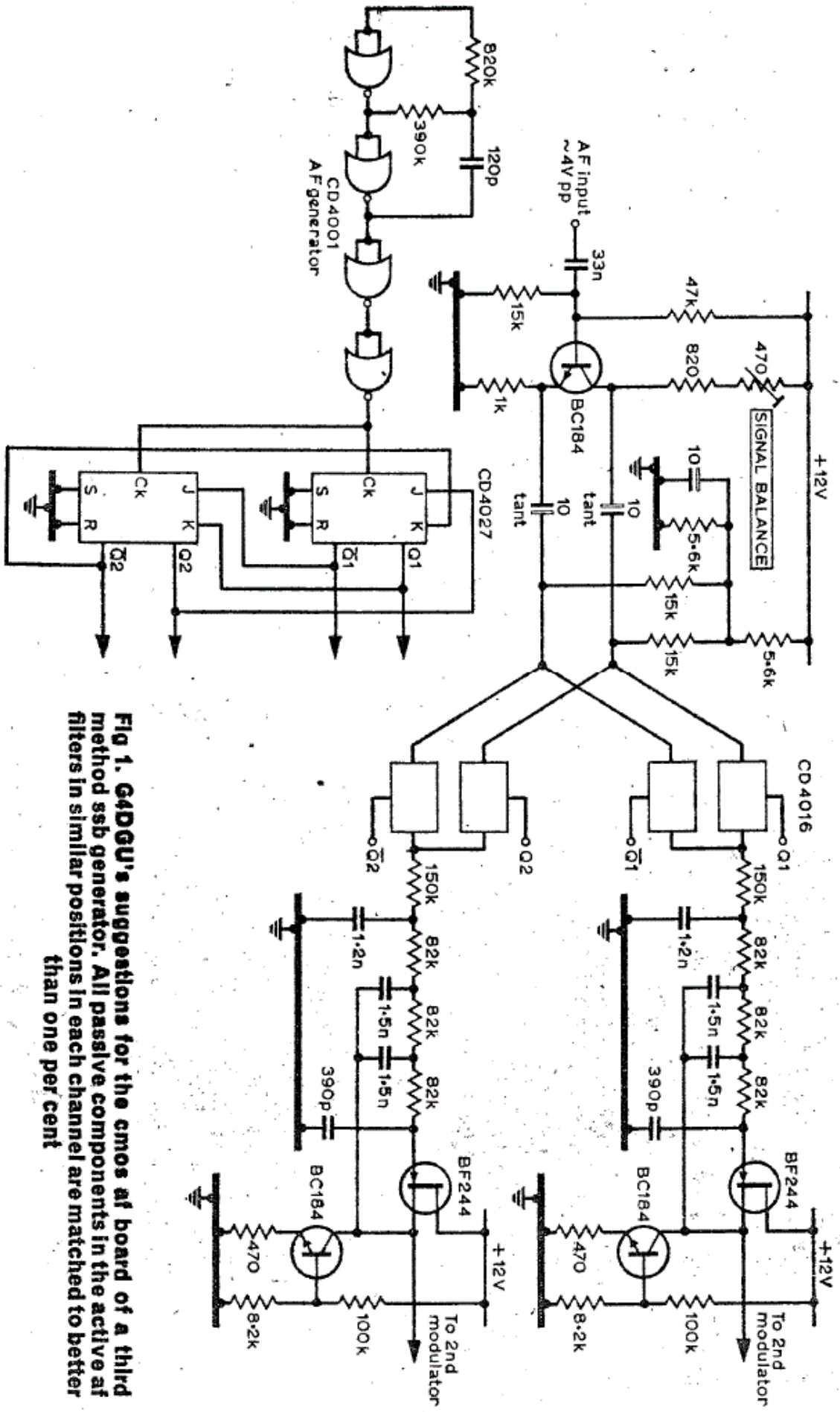


Fig 1. G4DGU's suggestions for the cmos af board of a third method ssb generator. All passive components in the active af filters in similar positions in each channel are matched to better than one per cent