

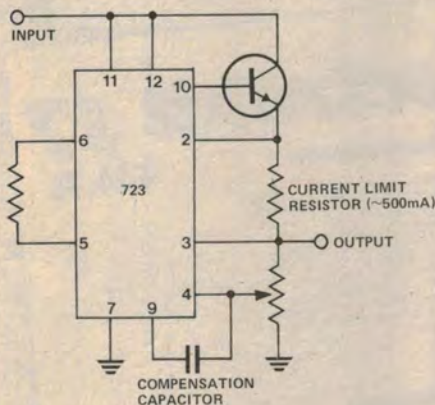
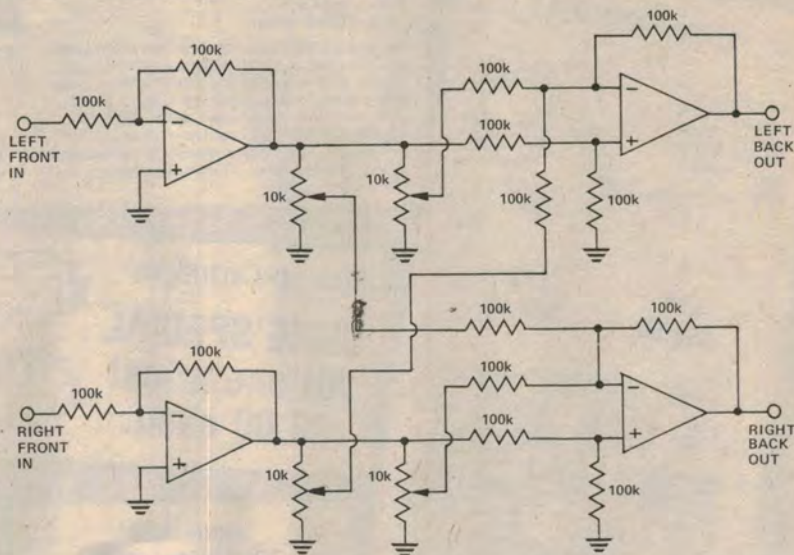
Ideas for Experimenters

These pages are intended primarily as a source of ideas. As far as reasonably possible all material has been checked for feasibility, component availability etc, but the circuits have not necessarily been built and tested in our laboratory. Because of the nature of the information in this section we cannot enter into any correspondence about any of the circuits, nor can we produce constructional details.

Simpler 4-Channel Synthesiser

In March this year (p 105), we published a design for a circuit which synthesised the back channel signals for an 'artificial' 4-channel system, using the existing front channel signals.

Mr. P. Dennis of Berala has pointed out to us that the circuit we published can be massively simplified without affecting its operation. The above circuit uses less than half of the number of op-amps that the original used. It does this partly by utilising the op-amps as mixers with both inverting and non-inverting inputs, instead of separate inverters and inverting-only mixers as in the March circuit.



PIN NUMBERS FOR 14-DIL

Regulator Problems

Also from Mr P. Dennis, some comments on the use of the 723 regulator IC.

Firstly, the shown circuit configuration, designed to supply about 500 mA, will oscillate at times, even with a 220pF compensation capacitor. The solution to this one is to use a transistor with lower gain. As long as the f_T stays the same, then the 3 dB corner frequency will go up by the same amount that the beta goes down.

Usually the lower gain presents no problem to the 723, although it does represent a higher load.

Secondly, if for any reason the wiper of the output voltage preset pot goes to earth, the IC may be damaged as the amplifier differential voltage (5 V max) may be exceeded. This usually occurs with multi-turn pots where the wiper position cannot be seen. It can easily be avoided by pre-setting the wiper to the output end of the track before switch-on.

Thirdly, when operating the 723 without an output transistor (in which case it can supply up to 150 mA), remember that it may heat up, causing the reference voltage to drift.