stereo pan pot

When making a sound recording using multi-microphone techniques the signal picked up by each microphone can be correctly positioned in the stereo sound stage by 'panning'. For example, the signal from a centrally placed microphone would be fed equally to both left- and right channels, a signal from a microphone located at the left of the sound stage would be fed only to the left channel and a signal from a microphone located at the right would be fed only to the right channel. Signals from microphones located between these positions would be fed to the left- and right channels in the appropriate proportions.

A circuit which allows the position of the sound image from a particular microphone to be positioned is known as a panoramic potentiometer or pan pot and usually consists of a ganged log-antilog potentiometer. The input signal is fed to both halves of the potentiometer and the left- and right outputs are taken from the wipers. Turning the potentiometer to the right increases the right channel level and decreases the left channel level, and vice versa.

Operation of a pan pot must not vary the total signal level, i.e. if the output level from the left or right channel with the pan pot in its extreme left- or right position (other channel muted) is taken as 0 dB, then the signal level from each channel with the pan pot central must be −3 dB to keep the total signal constant.

Figure 1 shows the circuit of a pan pot which uses only a single, linear potentiometer. The input signal from, say, a microphone preamplifier is split into two channels. The resistor and potentiometer values are chosen such that, with P1 in the extreme left position (wiper towards R1') the gain of the left channel is 1.066 whilst the right input signal is shorted to ground via the wiper of P1. With P1 in the extreme righ position the reverse is true. With the wiper of P1 in its centre position the gain of both channels is 0.746, which is approximately 3 dB down on the gain in the extreme positions.

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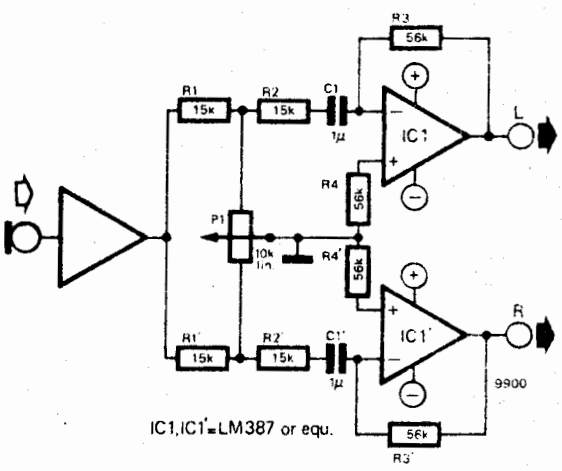

IC1,IC1'=LM387 or equ.