

# Stereo and Mono Together

## *Modifying a mono headphone jack to properly accept either stereo or mono phones*

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**H**ere is a way to wire a headphone jack so that either stereo or mono headphones can be plugged into it. The problem to be solved is as follows: If you plug stereo phones into a mono phone jack, sound can be heard only in one ear; if you plug mono phones into a stereo jack, there is a short across one channel, which can damage the output transformer.

This circuit assumes that the signal source is monophonic (that is, the speaker output of a radio). Plugging in either type of headphone cuts out the speaker. If the phones are stereophonic, one channel receives the sig-

nal directly, and the other receives it through a 10-ohm resistor. With mono headphones, the resistor prevents the signal from being shorted to ground. (Many closed-circuit stereo phone jacks have one more switch contact than is shown in the diagram; the extra contact can be ignored.)

Most stereo headphones have an impedance of 100 to 200 ohms, so the resistor does not produce a noticeable difference in sound level between one ear and the other. Even with 40-ohm lightweight headphones, the loss due to the resistor is only 2 dB, which is usually not perceptible. With 8-ohm phones, the loss is 6 dB, which is noticeable, but won't be serious when listening to a monophonic signal. **ME**

