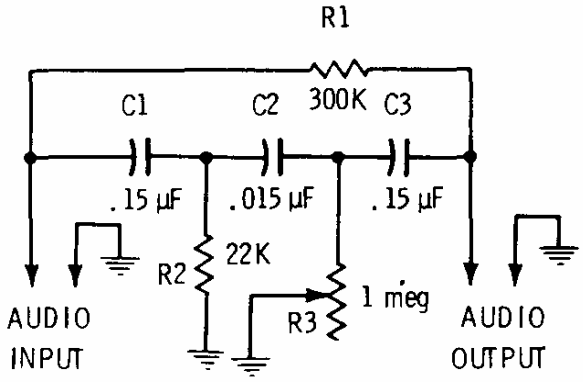
HETERODYNE STOPPER

This is a headphone filter that prevents any unwanted signals from reaching the headphones or the speaker. The filter is a completely variable, band-reject system that will get rid of an undesired audio frequency. This circuit is not, however, limited to being used just for headphones; it may also be adapted to any tape recorder, amplifier, etc.

Potentiometer R3 is the control that gives the filter the feature of being tunable. Maximum resistance of R3 gives the filter a low frequency cut and vice-versa.



Heterodyne eliminator diagram.

Parts List for the Heterodyne Stopper

Item No.	Description
C1, C3	.15 µF capacitors.
C2	.015 µF capacitor.
R1	300K resistor.
R2	22K resistor.
R3	1 meg potentiometer.

R_1 should be within a 1000-ohm tolerance range to provide for a proper frequency range. However, for experimentation purposes, R_1 may be substituted with a 500K variable potentiometer, if a higher or lower output impedance is desired. The unit is so compact that it may be built into an enclosure comparable to a Altoids tin.

If C_1 is moved to a value between 0.1 to 0.2 mF, both C_1 and C_3 must have the same value in order to keep symmetry in the circuit. C_2 should be around 10 percent of the value of C_1.

An audio signal generator can be connected to the input terminals and headphones for alignment. Mount a pointer knob on R_3 and glue a paper scale below the limits of where the pointer

points. Calibration is done with the scale markings made 100 or 500 Hz apart.

If the heterodyne stopper is used in audio equipment, besides the headphones, shielded cable should be used for the input and output wires when long lengths of wiring are put between units.

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