

CONDENSER MIC AUDIO AMPLIFIER

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The compact, low-cost condenser mic audio amplifier described here provides good-quality audio of 0.5 watts at 4.5 volts. It can be used as part of intercoms, walkie-talkies, low-power

transmitters, and packet radio receivers.

Transistors T1 and T2 form the mic preamplifier. Resistor R1 provides the necessary bias for the condenser mic while preset VR1 functions as gain control for

varying its gain. In order to increase the audio power, the low-level audio output from the preamplifier stage is coupled via coupling capacitor C7 to the audio power amplifier built around BEL1895 IC.

BEL1895 is a monolithic audio power amplifier IC designed specifically for sensitive AM radio applications that delivers 1 watt into 4 ohms at 6V power supply voltage. It exhibits low distortion and noise and operates over 3V-9V supply voltage, which makes it ideal for battery operation. A turn-on pop reduction circuit prevents thud when the power supply is switched on.

Coupling capacitor C7 determines low-frequency response of the amplifier. Capacitor C9 acts as the ripple-rejection filter. Capacitor C13 couples the output available at pin 1 to the loudspeaker. R15-C13 combination acts as the damping circuit for output oscillations. Capacitor C12 provides the boot strapping function.

This circuit is suitable for low-power HAM radio transmitters to supply the necessary audio power for modulation. With simple modifications it can also be used in intercom circuits. □

