

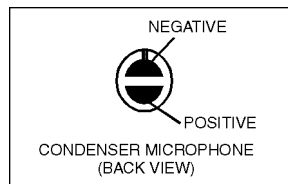
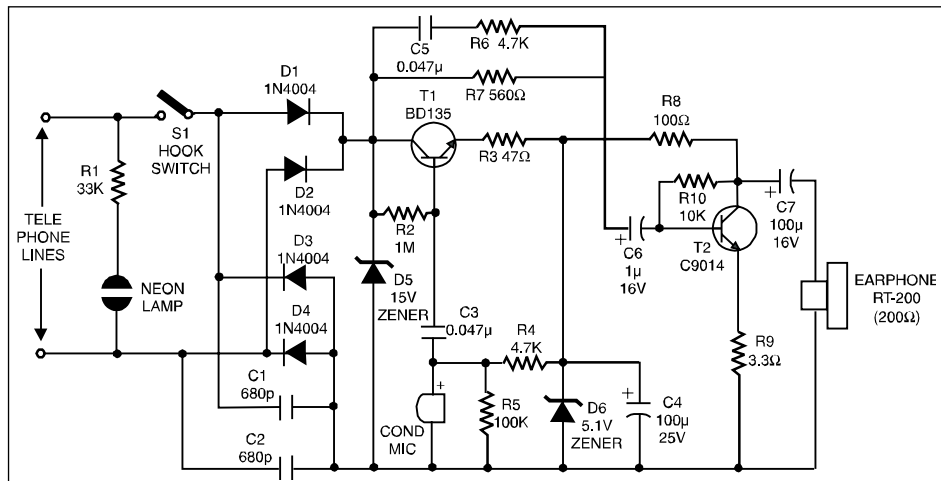
# TELECOM HEADSET

A compact, inexpensive and low component count telecom head-set can be constructed using two readily available transistors and a few other electronic components. This circuit is very useful for hands-free operation of EPABX and pager communication. Since the circuit draws very little current, it is ideal for parallel operation with electronic telephone set.

Working of the circuit is simple and straightforward. Resistor R1 and an ordinary neon glow-lamp forms a complete visual ringer circuit. This simple arrangement does not require a DC blocking capacitor because, under idle conditions, the telephone line voltage is insufficient to ionise the neon gas and thus the lamp does not light. Only when the ring signal is being received, it flashes at the ringing rate to indicate an incoming call.

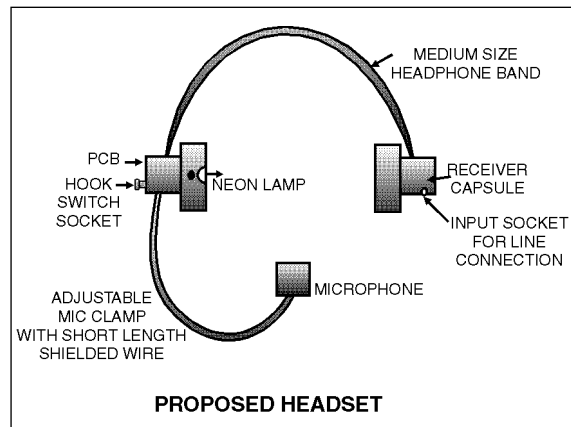
The bridge rectifier using diodes D1 through D4 acts as a polarity guard which protects the electronic circuit from any reversal in the telephone line polarity. Zener diode D5 at the output of this bridge rectifier is used for additional circuit protection.

Section comprising transistor T1, resistors R2, R3 and zener diode D6 forms a constant voltage regulator that provides a low voltage output of about 5 volts. Dial tone and speech signals from exchange are coupled to the audio amplifier stage built around transistor T2 and related parts, i.e. resistors R7, R6 and capacitor C5. Amplified signals from col-



lector of transistor T2 are coupled to dynamic receiver RT-200 (used as earpiece) via capacitor C7.

A condenser microphone, connected as shown in the circuit, is used as transmitter. Audio signals developed across the microphone are coupled to the base of transistor T1 via capacitor C3. Resistor R4 determines the DC bias required for the microphone. After amplification by transistor T1, the audio signals are coupled to the telephone lines via the



diode bridge.

The whole circuit can be wired on a very small PCB and housed in a medium size headphone, as shown in the illustration. For better results at low line currents, value of resistor R2 may be reduced after testing.