

PC MULTIMEDIA SPEAKERS

■ T.K. HAREENDRAN

This circuit of multimedia speakers for PCs has single-chip-based design, low-voltage power supply, compatibility with USB power, easy heat-sinking, low cost, high flexibility and wide temperature tolerance.

At the heart of the circuit is IC TDA2822M. This IC is, in fact, mono-

age down to 1.8 volts and minimum output power of around 450 mW/channel with 4-ohm loudspeaker at 5V DC supply input.

An ideal power amplifier can be simply defined as a circuit that can deliver audio power into external loads without generating significant signal distortion and without consuming excessive quiescent current.

This circuit is powered by 5V DC

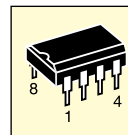


Fig. 2: Pin configuration of TDA2822M

limiter and capacitors C1 and C4 act as buffers.

Working of the circuit is simple. Audio signals from the PC audio socket/headphone socket are fed to the amplifier circuit through components R2 and C2 (left channel), and R3 and C3

(right channel). Potentiometer VR1 works as the volume controller for left (L) channel and potentiometer VR2 works for right (R) channel. Pin 7 of TDA2822M receives the left-channel sound signals and pin 6 receives the right-channel signals through VR1 and VR2, respectively. Amplified signals for driving the left and right loudspeakers are available at pins 1 and 3 of IC1, respectively. Components R5 and C8, and R6 and C10 form the traditional zobel network.

Assemble the circuit on a medium-size, general-purpose PCB and enclose in a suitable cabinet. It is advisable to use a socket for IC TDA2822M. The external connections should be made using suitably screened wires for better result. ●

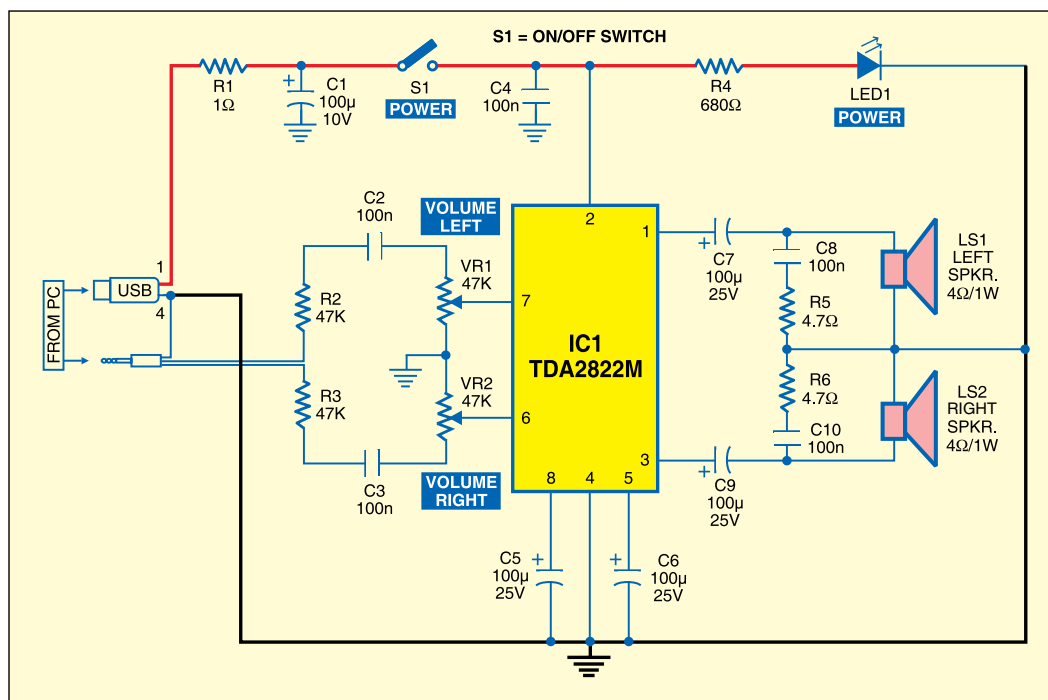


Fig. 1: Circuit for PC multimedia speaker

lithic type in 8-lead mini DIP package. It is intended for use as a dual audio power amplifier in battery-powered sound players. Specifications of TDA2822M are low quiescent current, low crossover distortion, supply volt-

age available from the USB port of the PC. When power switch S1 is flipped to 'on' position, 5V power supply is extended to the circuit and power-indicator red LED1 lights up instantly. Resistor R1 is a current surge