

Crescendo Alarm

By A.N. Collinson

This circuit is designed for the benefit of those who find the start of the day a little too alarming. It can be coupled to an alarm clock or almost any other timing mechanism, and produces a output which builds up from nothing to full volume. The sleeper is thus awakened by the very minimum volume necessary.

The input can be an oscillator or almost any other audio source, such as music from a clock radio. R1 and R2 provide attenuation and the signal is then fed to IC1, a transconductance amplifier whose gain is controlled by the current entering pin 5. Q1, D1, D2 and R11 pro-

vide a constant current of about 1 μ A which is used to charge capacitor C5. The constant current ensures that the voltage across C5 rises linearly, full charge being reached after about 3 or 4 minutes. This voltage is passed to IC1 via IC2; R3 and R5 are included to compensate for IC2's offset. Some experimenting may be necessary with R5 if the offset causes an output when you don't want one.

The output of IC1 is coupled via R10 and C4 to the audio amplifier IC3 and then to the loudspeaker. If a power amplifier output is not required, IC3 can be deleted and the output taken from C4. Constant current source Q1 can be any small-signal PNP general purpose transistor.

