

Ringling Transformers

Q I have a homemade square-, sine- and triangle-wave generator and a Hitachi oscilloscope. Can you tell me how to perform ringing tests on flybacks and switch-mode transformers? — J. M., Athens, TX

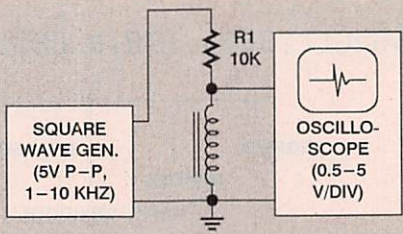


FIG. 3—USE THIS SET UP to perform a ringing test on a coil or transformer. The waveform displayed depends on the transformer's inductance and capacitance.

A Figure 3 shows a simple circuit for testing inductors and transformers of all types. Apply a square wave across a coil through a 10-k Ω resistor, and you'll get a distinctive ringing waveform that depends on the inductance and stray capacitance of the coil (or transformer winding). If the coil is open, you'll see the squarewave, unchanged or slightly rounded; if the coil is shorted, the scope will show a flat trace (no signal). Otherwise, the amplitude of the waveform is roughly proportional to the inductance.

In general, you'll use this tester to compare a suspect transformer to one that is known to be good. After a while you'll be able to recognize the waveforms produced by good and bad components from experience.