

ASK R-E

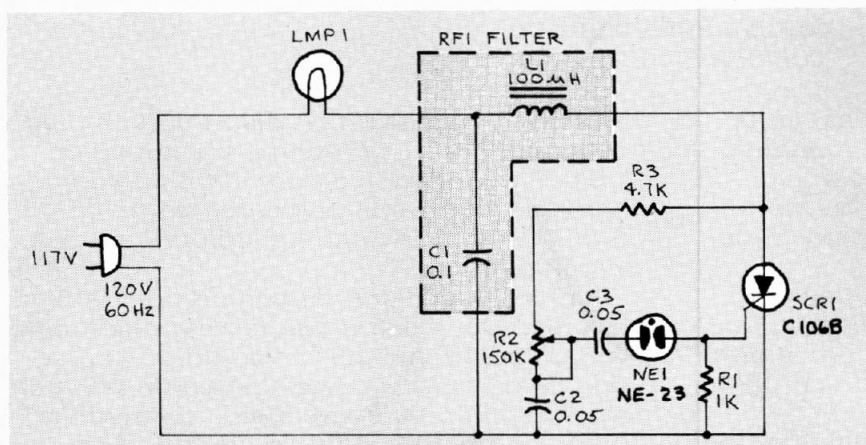


FIG. 1

INTERFERENCE FROM LIGHT DIMMERS

How can I prevent electronic light dimmers from interfering with reception on my AM radios? Whenever I use a dimmer-controlled light, a loud buzz makes reception impossible.—P.B., Gustavus, AK

Literally thousands of the early electronic light dimmers were marketed before the manufacturers realized that there was a problem. Those dimmers used a Triac or an SCR as the control device. What they failed to account for was that Triacs and SCR's produce harmonic-rich squarewaves that cause RFI (Radio-Frequency Interference) unless steps are taken to prevent it. Later dimmers have built-in filters and shielding to prevent the harmonic interference from feeding back into the power line, or use zero-crossing control switching to eliminate the noise. Figure 1 shows the schematic of one of the newer versions; it was developed by General Electric. The RFI filter in that circuit is enclosed in the dashed box.

As for do-it-yourself remedies, you could connect a 0.0047- μ F ca-

pacitor across the dimmer to reduce the interference. But if not done carefully, making such a modification could produce a shock or fire hazard. In the interest of safety, the best approach would be to simply replace the noisy dimmers with models that incorporate an RFI filter.