PC Power Supply On Workbench

Q I have some extra PC/XT power supplies that I would like to use for experiments. Is

it safe to turn them on with no load? If not, what kind of external circuitry would I need to make it safe? —R. C., Elk Grove, CA

A Many PC power supplies will refuse to operate with no load, but they run fine if you connect a 12-volt, 1-amp automotive bulb across the 5-volt output (the red and black wires at a disk-drive connector). The bulb will burn at half brightness and will give you an immediate visual indication if the voltage fluctuates. A few power supplies require more of a load than that; try two or three bulbs in parallel.

Old PC power supplies are excellent for powering experimental digital circuits. (They're a bit too noisy for audio or radio work.) The 65-watt supply of the original PC can supply +5V at 7 amps, –5V at 300 mA, +12V at 2 amps, and –12V at 250 mA. Newer PC power supplies can deliver three or four times as many amps. In fact, it's a good idea to put a fuse between the power supply and your circuit so that if something shorts, the power supply won't drive 20 amps through it!