

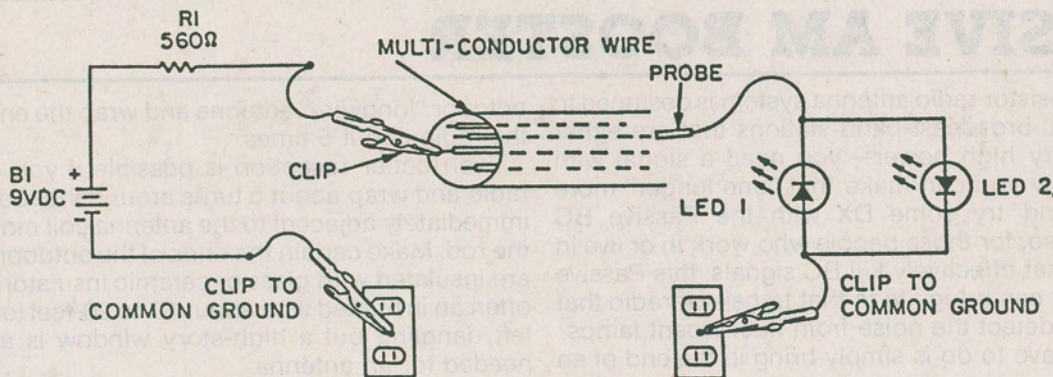
SIMPLE CABLE TRACER

Problem! You've just snaked a multi-wire computer and/or intercom cable through two floors, five bends, and two "pull" boxes, and you have the creepy feeling that one of the wires broke in the process. Then, you discover upon trimming away the outer jacket, that all of the wires are the same color. What to do? Simple, just check 'em all with this simple wire tracer. Clip one end of the LED1/LED2 circuit to the same ground source and touch the other end to each wire. When you find the wire being tested, one of the two LEDs will light.

It doesn't matter which LED lights. We use two only to prevent confusion in the event a polarity gets reversed. This way, one LED is certain to light. The LEDs can be any "general purpose" type available. Battery B1 is a 9-volt transistor radio-type.

PARTS LIST FOR CABLE TRACER

- B1**—9 volt transistor radio battery
- LED1, LED2**—general purpose LED, 0.02 mA
- R1**—560-ohm, 1/4-watt resistor
- Misc.**—3 alligator clips, 1 test probe



ZENER DIODE TESTER

If you're at all familiar with the surplus market, you know that zener diodes presently abound in surplus—at tremendous discounts, too. The problem with buying surplus, however, is that many diodes are unmarked or incorrectly marked. Consequently, these must be tested to verify their working voltages. Another problem crops up when you buy so-called "grab bags" of components. The zeners you find may be legibly marked, but unless you happen to have a data sheet for those particular diodes, they will require testing to identify the zener voltages. You can do your testing quickly and easily with the circuit presented here.

T1, D1 and C1 comprise a simple half-wave rectifier system. Pressing S1 sends a DC current through current limiter Q1 and the diode under test. Q1

regulates the current to a value of about 10 mA regardless of the zener voltage. You can use your VOM or voltmeter to monitor the voltage drop across the zener; values as high as 25-volts can be reliably tested in this circuit. If you get a very low reading, say 0.8-volts, you have the diode in reverse. Interchange the zener's connections.

PARTS LIST FOR ZENER DIODE TESTER

- BP1, BP2**—binding posts
- C1**—500- μ F, 50-VDC capacitor
- D1**—1N4002 diode
- Q1**—2N5363 n-channel JFET
- S1**—normally open SPST switch
- T1**—120-VAC to 24-VAC @ 300 mA power transformer

