BUILD A PAIR OF "LAZY-LEADS"

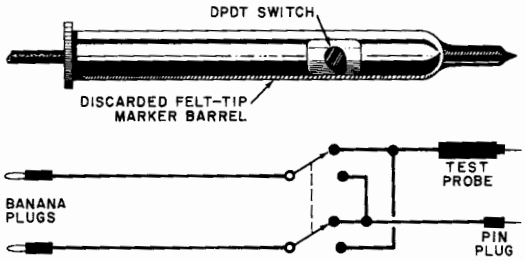
BY GENE FRANCISCO

Eliminate switching leads when testing semiconductors

If you have ever tested a batch of semiconductors with an ohmmeter, you know that continually transposing test leads results in tired hands and tangled leads. Presented here is a simple probe called "Lazy Leads" which eliminates the need to transpose leads thanks to a built-in dpdt switch. It can be assembled from odd parts in a few moments.

Construction of the Lazy Leads is very simple. Locate a used felt-tip marker whose barrel sits comfortably in your hand. Also, select a subminiature dpdt switch. The switch must be small enough to fit inside the marker barrel. (Alternatively, choose a marker whose barrel is large enough to accommodate a small dpdt switch.) Other required items include a pin-tipped test probe, a pin plug, a length of three-conductor flexible cable and a pair of plugs compatible with your meter.

Remove the sealing plug from the top of the marker barrel and discard the spent ink reservoir and tip. Thoroughly clean the barrel with rubbing alcohol. Next, cut an opening in the barrel near the tip to accommodate the dpdt switch.



The Lazy Leads are made by inserting probe tips and a subminiature switch in the barrel of a felt-tip marker.

Drill a hole in the sealing plug large enough to allow the three-conductor cable to run through it. Pass a length of the cable somewhat longer than the barrel through the hole and then tie a knot in the cable on the inner side of the seal.

Separate one of the conductors on the *outer* side of the sealing plug and solder it to a test probe. Solder banana plugs to the two remaining conductors. Then feed the three-conductor cable down the barrel and through the hole cut for the switch. Solder the conductors to the switch contacts according to the schematic shown in the figure. Also, solder one end of a short length of hookup wire to a pin plug and the other end of the remaining switch contacts. Screw the pin plug into the tip end of the marker, replace the sealing plug and secure the switch in place with cement or suitable hardware.

The Lazy Leads are now ready for use. You will be able to change the polarity of the leads merely by throwing the dpdt switch. This will greatly simplify semiconductor tests with an ohmmeter or voltage or current tests with a multimeter lacking an autopolarity function.◇