

Circuit Debug Tips

- There is no magic wand for fixing a circuit.
- Learning to debug is part of the education experience.
- **Breadboard:** Are you using the breadboard correctly?
 - ◆ Is a component shorted by the board because it is not plugged in correctly?
 - ◆ Do you insert a lead all the way in to make contact?
 - ◆ Are the leads of two components inserted into the same column so that they are connected?
- **Power supply:**
 - ◆ check the red dot or “ear” on the banana connector to make sure that it is plugged in correctly.
- **Signal generator:**
 - ◆ Does the generated signal have a DC offset? See the Scope Manual for the adjustment instruction.
- **Scope:**
 - ◆ Is the scope scale set a 1 x? Sometimes the scope is set at 10 x scale accidentally.
 - ◆ Should you use AC or DC coupling? Set it to DC coupling if you want to see the DC offset of the signal.
- **Transistor operation:**
 - ◆ Is the voltage difference between the base and emitter between 0.6 and 0.7 V?