DO NOT PLUG IN THE UNIT UNTIL the Instructor or Lab Technician has checked the power supply wiring for correctness and Safety! Wiring the transformer or capacitor wrong can cause immediate component failure.

Check-out Procedures:

1. Before you plug the unit in, use a jumper to connect the +5vdc terminal to one of the five LED terminals T1 through T5, say T1. When you plug in the unit the corresponding Red LED should light. If it doesn't, IMMEDIATELY UNPLUG. This will protect the voltage regulator and the chips if the power supply or chips are shorted or improperly wired.
   (1). Check that +5v is wired to the terminal strip.
   (2). Check to see that the voltage regulator and all chips are cool. If any chip or the voltage regulator is HOT, that chip is improperly wired / shorted. Check all power supply wiring (+5 and Common).
   (3). Possibly the LED driver circuit is (are) improperly wired.

2. Repeat step 1 with T2, T3, T4, and T5. As soon as you find an LED that lights and stays lit, you can leave the unit plugged in; the power supply system and that LED driver is working properly. Test the rest of T1 through T5 with +5v, if one or more don't light:
   (1). Check the LED Polarity
   (2). Check the Transistor and resistor wiring. Ensure that +5v and common are connected.

3. Connect the jumper from +5v to the Probe. If the Probe lights Red (Hi) with +5v connected, leave the jumper on the probe and move the other end from +5v to common. The Probe should light Green (Lo), if not:
   (1). Check LED polarity. (2). Check diode polarity.
   (3). Ensure +5v and common are connected to the chip.
   (4). Check all probe wiring.

4. Leave one end of the jumper on the probe (when it is working) and connect the other end to the Timer. The probe should alternate Red and Green, and go from very slow to so fast they both appear to be on as you vary the potentiometer. If not, check all wiring in the timer circuit. {You can also use one of the Red LEDs (T1-T5) to check the timer. It should blink on and off and increase speed as you vary the potentiometer}.

5. Using the Probe, Terminals Q1 and Q2 should be Lo and Q1 Not and Q2 Not should be Hi. Q1 and Q1 Not should reverse (change from Lo to Hi) when SW1 is depressed. So should Q2 / Q2 Not with SW2. If not:
   (1). Check Switch wiring (NO & NC).
   (2). Check chip wiring and ensure +5v and common is connected properly.
   (3). If everything works, but polarity is reversed, change wiring to Q1 and/or Q2 Terminals.

6. Using the Probe, with Double Throw Switches A through D OFF, Terminals A, B, C & D should be Lo; and A Not through D Not should be Hi. Each pair (A & A Not) should reverse (change from Lo to Hi, or Hi to Lo) when the corresponding switch is thrown (OFF to ON). This completes the Digital Trainer Check Out. Ask the instructor or Lab Technician for assistance. There is also the possibility that one of the components is defective or has burned out. Having a spare voltage regulator, LED or Chip may ensure success as you get close to the end of the semester.