Test 1 Instruction

Verify FC4 Board Delay Angle without SCR and Load

A. Check the Delay Angle of the Board.

1. Connect FC4 board as shown in the diagram “Test 1 Connection Diagram”.
   Do not connect the board to SCR and Load.
2. Important JP1 setting:
   For 50 Hz AC power, JP1 opened.
   For 60 Hz AC power, JP1 shorted with jumper.
3. The 18 VAC power line connected to J5.
4. Connect a potentiometer Pot to P3-7 of FC4.
5. Switch SW1 is optional for verifying delay angle, but it needed when trying to see output pulses at TP6 and TP 7 or at J1 to J4.
6. Place scope probe to TP3 of FC4 to measure the delay angle moving from 180 (170) degree to 0 (10) degree with Pot adjusted from low to high shown in the Fig. 1, Fig. 2 and Fig. 3.

   Watch YouTube:
   https://youtu.be/x3x1Qvrcvbc

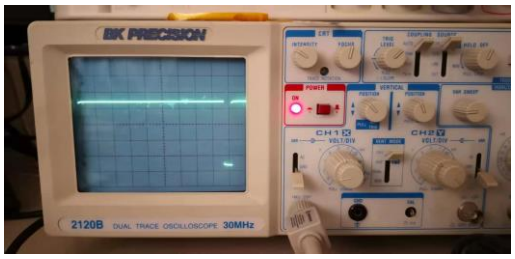

Fig. 1 Delay Angle = 180 (170)

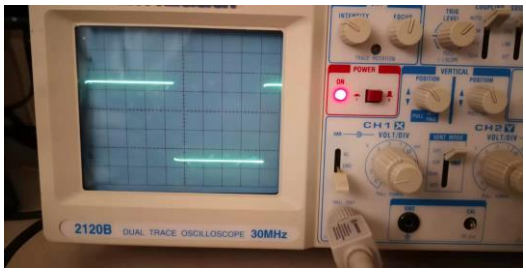

Fig. 2 Delay Angle = 90

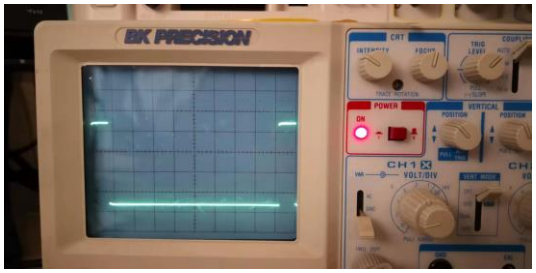

Fig. 3 Delay Angle = 0 (10)

If TP3 delay angle moved smoothly from minimum to maximum, it is basically functioning well.

B. Check Pulses Generated from the Board.

The output pulses can be seen at TP6 and TP7 as well as at J1 – J4 by closing SW1 to enable the pulse outputs.

7. Close SW1, adjust Pot to maximum, place scope probe to TP6 or TP7, the pulse will be shown in the Fig. 4 below.

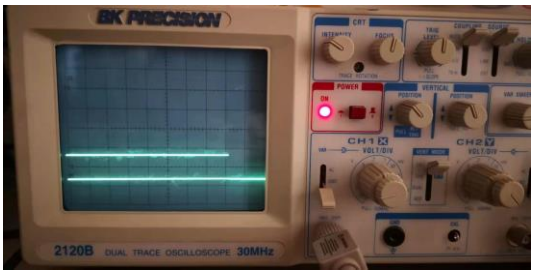

Fig. 4 Pulses measured at TP6 and TP7.

8. Place scope probe across pin 1 and pin 2 of J1 (probe pin to pin 1 and ground to pin 2 of J1), the trigger pulse output from the board can be seen in the Fig. 5 below. Repeat the same way to measure at J2, J3 and J4.
   Note: Do not do this measurement when J1 – J4 connected to SCR and power lines.

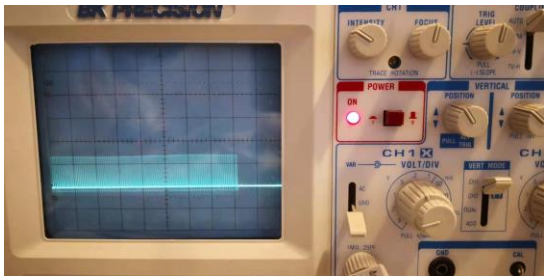

Fig 5. Pulses measured at J1 to J4.