WD2797 Calibration Circuit

This is a simple little circuit that can be built with 5 standard 74LS TTL IC's and a 40MHz crystal oscillator. The circuit does not require any adjustments and circuit layout is not critical. The circuit can be built on a wire-wrap board or any other type of project board. A 5-volt regulator is included so that the board can be powered from a variety of power sources. The prototype was built on a solder-less breadboard and the final board was built on a Radio Shack project board and power by a 9-volt battery.

Once the circuit is built use the following procedure to set the Pulse Width Modulator and VCO of the WD2797 as follows:

1. Set the TEST pin, pin-22, of the WD2797 to logic high.

2. Ensure that the 5/8 pin, pin-17, and the /DDEN pin, pin-37, are both grounded.

3. Strobe the master reset pin, pin-19.

4. Set the TEST pin, pin-22, of the WD2797 to a logic low.

5. Set a jumper between pins 1 and 2 of W1 and W2 on the calibration circuit. W3 is not used at this time.

6. Connect Pin-2 of J1 to ground on the WD2797 board and pin-1 of J1 to pin-29 of the WD2797.

7. Turn the potentiometer on pin-18 counter clockwise, CCW, until the LED on the calibration circuit is OFF.

8. Now turn the potentiometer clockwise, CW, until the LED is ON.

9. Continue turning the potentiometer CW until the LED turns OFF again.

10. Now turn the potentiometer CCW until the LED is COMPLETELY ON and stop. Do not turn the potentiometer any further. If you turn the potentiometer adjustment CW a tiny bit you should see the LED dim down. Turn the adjustment CCW just enough to get the LED on at full brightness.

11. On the calibration circuit move the jumpers on W1 and W2 to pins 2 and 3. Install a jumper on pins 1 and 2 of W3.

12. Connect pin-1 of J1 on the calibration circuit to pin-16 of the WD2797.

13. Adjust the variable capacitor on pin-26 of the WD2797 until the LED is on. This set the variable capacitor to minimum capacitance.

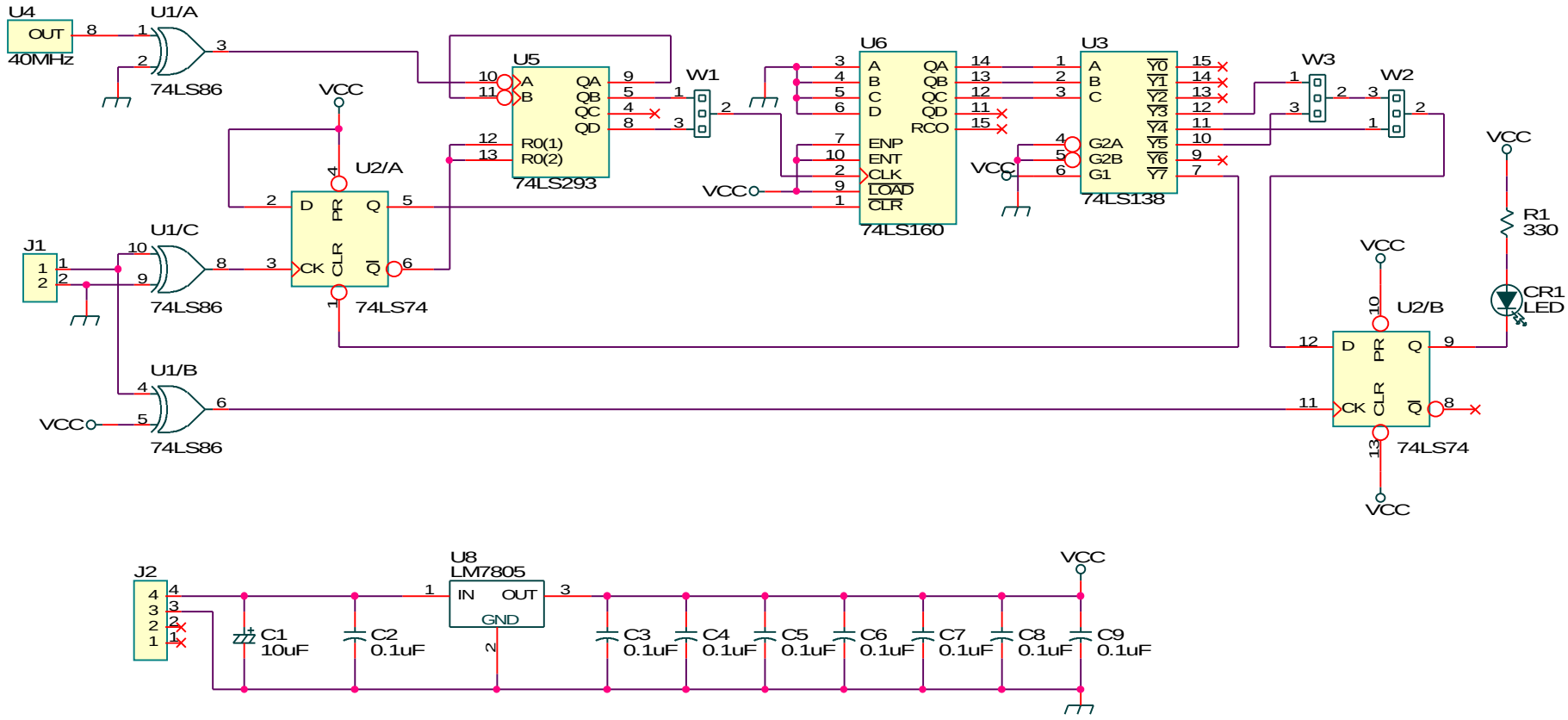
14. Now move the jumper on W3 of the calibration circuit to pins 2 and 3.

15. Now turn the variable capacitor CW until the LED turns ON. Continue turning the adjustment CW until the LED turns OFF. Now turn the adjustment CCW to a point midway between the two points at which the LED is OFF. Lets say that the LED turns ON at the 10 o'clock position and turns OFF at the 12 o'clock position. Turn this adjustment to the 11 o'clock position.

16. Disconnect the calibration circuit from the WD2797 and set the TEST pin, pin-22, to logic high.

That's it your finished. If you have scope you can double check the adjustments as you make them.

It is hoped that this circuit will help those that do not have access to a scope to make the adjustments to the WD2797 FDC chip.



Power and Ground Table					
Component	VCC	GND	-VDC	+AUX	-AUX
U1, U3, U6, U7	14	7			
U2	5	13			
U4, U5	16	8			

Title: WD2797 FDC Calibrator

Size: A | Subtitle: ..... | Rev.: 0

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