

## **Vivitar DF500 Modification**

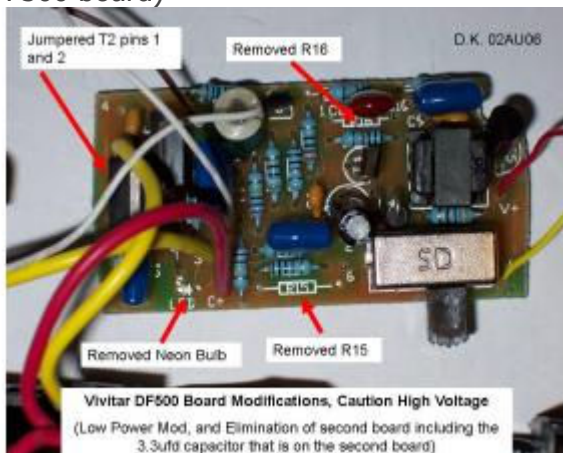
As a continuation of my Vivitar 2000 work, I have developed a new modification for the DF500 board that incorporates the previous Low Power Modification as well as the elimination of the second board (DF-501) including the elimination of the large yellow capacitor (3.3 ufd) that is located on the DF-501 board.

I have attached a picture showing the DF500 board along with notes on my modification.

### **Modification Steps :**

- 1) Unsolder all of the wires on the DF500 board that go to the DF-501 board.
- 2) Remove Resistor R16 (10K ohm resistor).
- 3) Remove the Neon Bulb (ready light).
- 4) Remove Resistor R15 (22K ohm resistor).
- 5) Jumpered pins 1 and 2 together on SCR (CR5CS) that is labeled T2

(Note : steps 2 and 3 above duplicate the previous Low Power Mod for the Vivitar 2000 DF500 board)



### **Additional recommendations (applies to Vivitar 2000 units that have 800 ufd capacitor and DF500 board):**

- 1) Install a 0.47 ohm resistor (2 watt or greater) in series with your battery if using 4 NiMH batteries.
- 2) Install a 2.5 ohm resistor (10 watt or greater) in series with your battery if using a 6 Volt SLA battery.

(Note : the above 2 recommendations limit the in rush current which will help protect transistor T5 (C2500) which is the inverter transistor that has a continuous current rating of 2 amps and a peak rating of 5 amps. The peak is broad, so I opted to limit the current to the continuous rating value.)

I have analyzed the Low Power Mod and its impact on charging current and capacitor voltage, and find no evidence that this modification has a large impact on on the charging current or capacitor voltage (see my previous posting on this subject). Therefore the Low Power Mod does not appear to be related to the failures noted with

the Vivitar 2000 flash units that have DF500 boards.

The Low Power Mod does an amazing job of minimizing capacitor discharge, and closely approaches what would be achieved if the capacitor were totally isolated.

I ran across a posting this morning that shows a schematic for a Vivitar 2000b flash unit. Turns out that my modifications basically duplicate the original Vivitar 2000b design except I also removed the ready light. The Vivitar 2000b does not have the bounce back feature, and my modification totally bypasses the components used in the bounce back feature of the Vivitar 2000. It does not appear anyone was taking advantage of the bounce back feature of the Vivitar 2000 in their trail camera builds, so elimination of the bounce back components should help clean up future builds for those using the Vivitar 2000 that has the DF500 board.

(As always modification of commercial products is done at your own risk. Use extreme caution since high voltage exists within flash units. Take proper steps to assure all energy has been discharged (from the capacitors, etc.), before touching any component within the flash unit.)

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