

## Macro Studio Photography

Earlier today I was doing some studio shots of my latest photographic electronics project -- the RBPS II, short for Rechargeable Battery Power Supply. I designed this 450v power supply to replace the two \$90 each 225V B batteries that power my favorite flash units from the 1960's, Strobflash IV! I am doing up the instruction sheet and photos for the web site -- Strobflash.Com. There is a little jumper on the printed circuit board that I need to instruct the user about. I discovered that in order to show it clearly in the instruction manual I had to do an extreme closeup since it is only a third of an inch wide. So I pulled out my trusty Nikon 70-200 VR zoom lens to do the shot.

(If you can't see the photos get the PDF [here](#) :)



Nikon 70-200 VR f2.8

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The 70-200 VR is a great lens if you are a hundred feet from the subject but it will only focus down to about five feet. So how am I going to do a macro shot of something one third of an inch across? Simple! A 77mm diameter Canon 500D screw on closeup diopter. With this little \$130 gem I can focus down to about 15 inches from the lens and do a shot that will be recorded on my sensor at just about life size! AND I don't lose any f stops like you would using extension tubes. You may remember John Roach did a thing on macro photography a while back and mentioned the 500D. I purchased it on his advice. Thanks John!

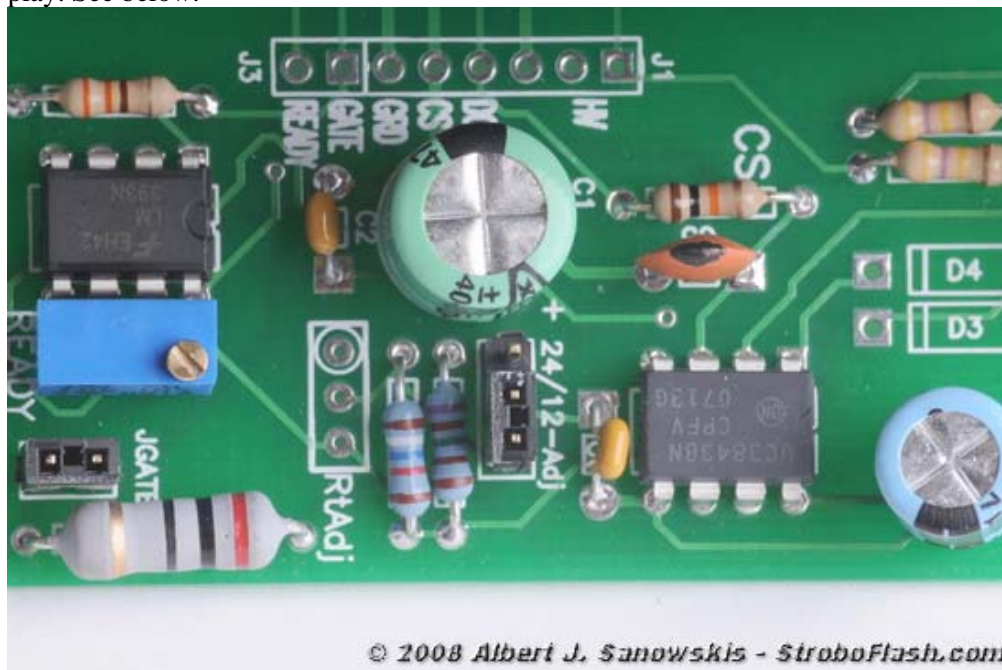


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### Canon 500D Closeup Lens

This is the "keeper" shot. The subject jumper is the black rectangle with 3 gold squares in the middle. It is labeled 24/12-Adj.

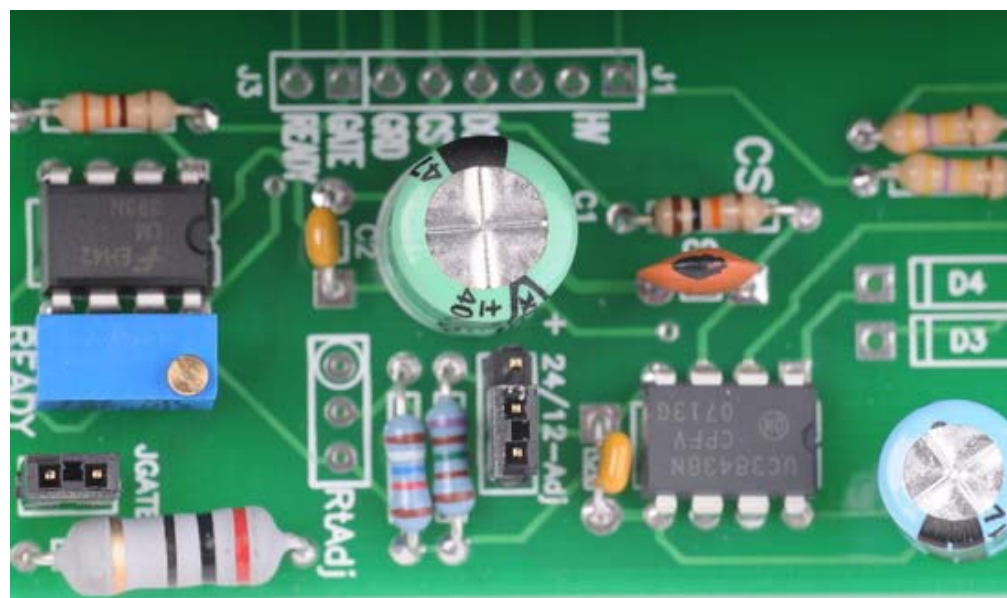
Notice how everything is in real sharp focus except that light green thing with the silver cross in the middle? It turns out that green thing is about 1/2" closer to the lens than the dark green PC board. This is where "depth of field" comes in to play. See below.



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### The keeper shot

Notice in this shot the top of the light green thing is really in focus but the 1/2" lower PC board lettering is out of focus.



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f13 200mm Focus point is 1/2 above the PC board.

In this shot the lettering is in focus but the round green thing is not. How did I get them BOTH in focus?

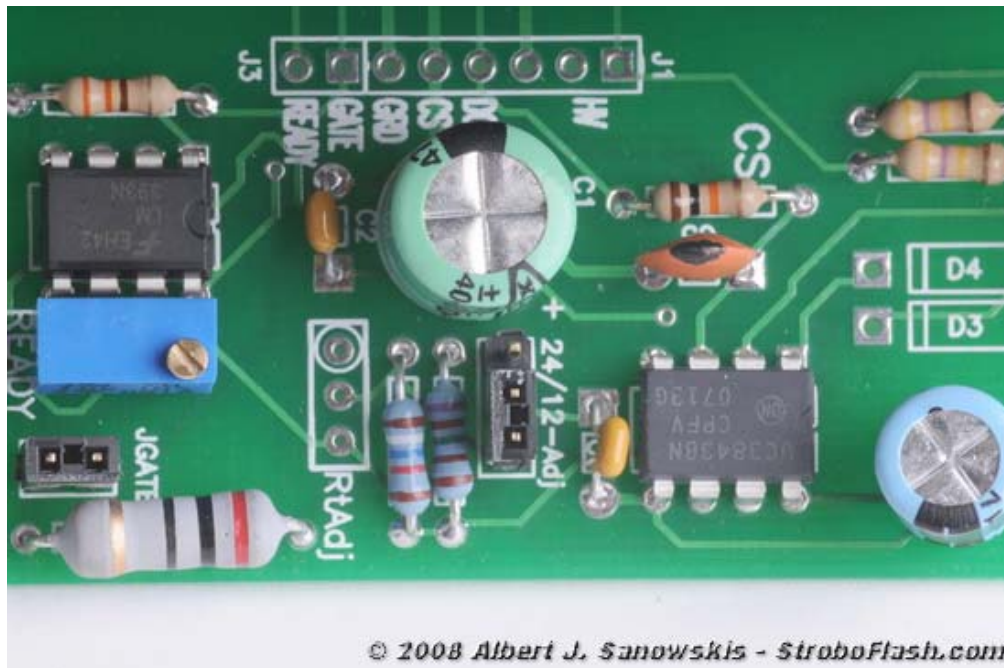


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f13 200mm white lettering in focus.

SIMPLE! I manually set my focus at half way -- to the top of the black rectangle thing. Always use MANUAL focus for macro work. I know that with this lens combination at aperture f13, I have just about 1/2" of range where everything in that area will be in focus. The middle will be dead on and 1/4" above and below will just start to be out of focus but not too bad. I can increase this range a little bit by "stopping down" to f22. See below.

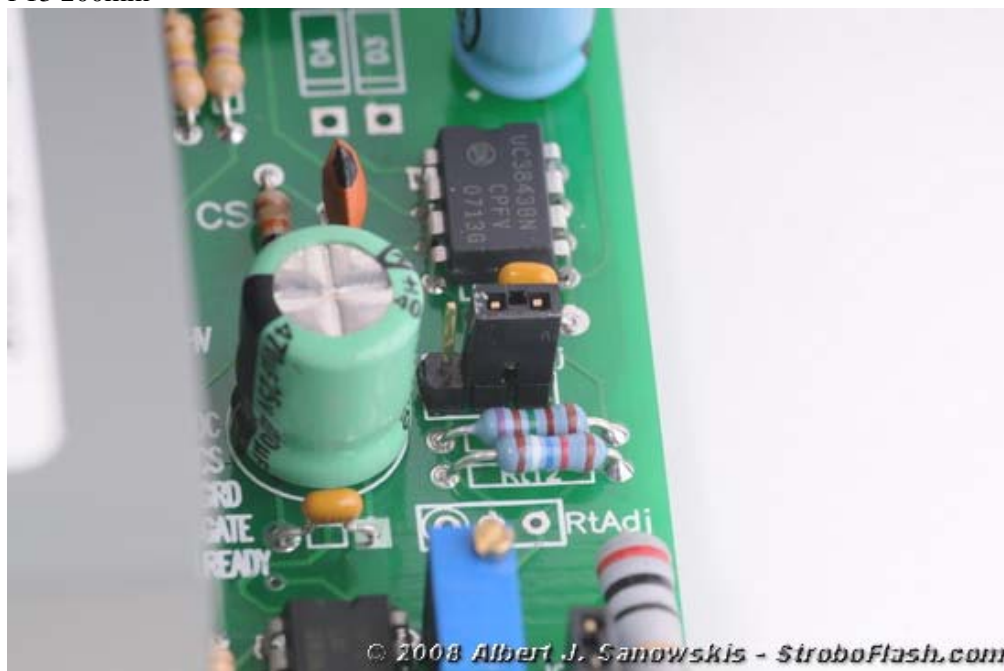




The "keeper" f22 200mm Focus point is about 1/4" above the PC board.  
Exposure is a bit off. Need to dial up my strobes but look how sharp e verything is!

Here is another example where you can clearly see where the range of focus "depth of field" is.

f 13 200mm



My studio setup. 2 - 400Watt Second studio strobes with soft boxes. A plastic folding table and some white seamless background paper. Another 500WS strobe is behind me is lighting the soft boxes because they are firing too!



Finished product. I shot this using the modeling lights on the strobes instead of the flash. Why???

Had I used the flash the green LED would have been washed out and I wanted it to be visible and READY. I am slightly off on the color balance. The white background has a little amber in it and not pure white.



Complete unit with NiMh battery. This is the power unit to the 50 year old Strobeflash IV. 200 watt seconds of flash

power. Originally designed for use with the Graflex Speed Graphic 4"x5" sheet film camera.



Things to remember:

Use a LONG focal length lens for macro work. The longer the lens the further you can be from the subject.

Use manual focus. The smallest movement will make a big difference.

Use a tripod. You cannot do macro photography hand held.

Use lots of light so you can use small f stops like f16 or f22. You don't really need strobes. 27w fluorescent bulbs in a soft box or with a big reflector will work too. Get the light close to the work. The closer the lights are the less shadows you will have.

If using continuous lighting use a remote shutter release.

Set your white balance to match your light source. Don't mix light sources. Use all fluorescents or all incandescent but never mix.

If you are getting anything out of these tips -- or not -- let me know! -- AL

## Coming Up Next time:

Using the histogram function of your DSLR to get perfect exposure.