

SX-70 Circuit Board Question

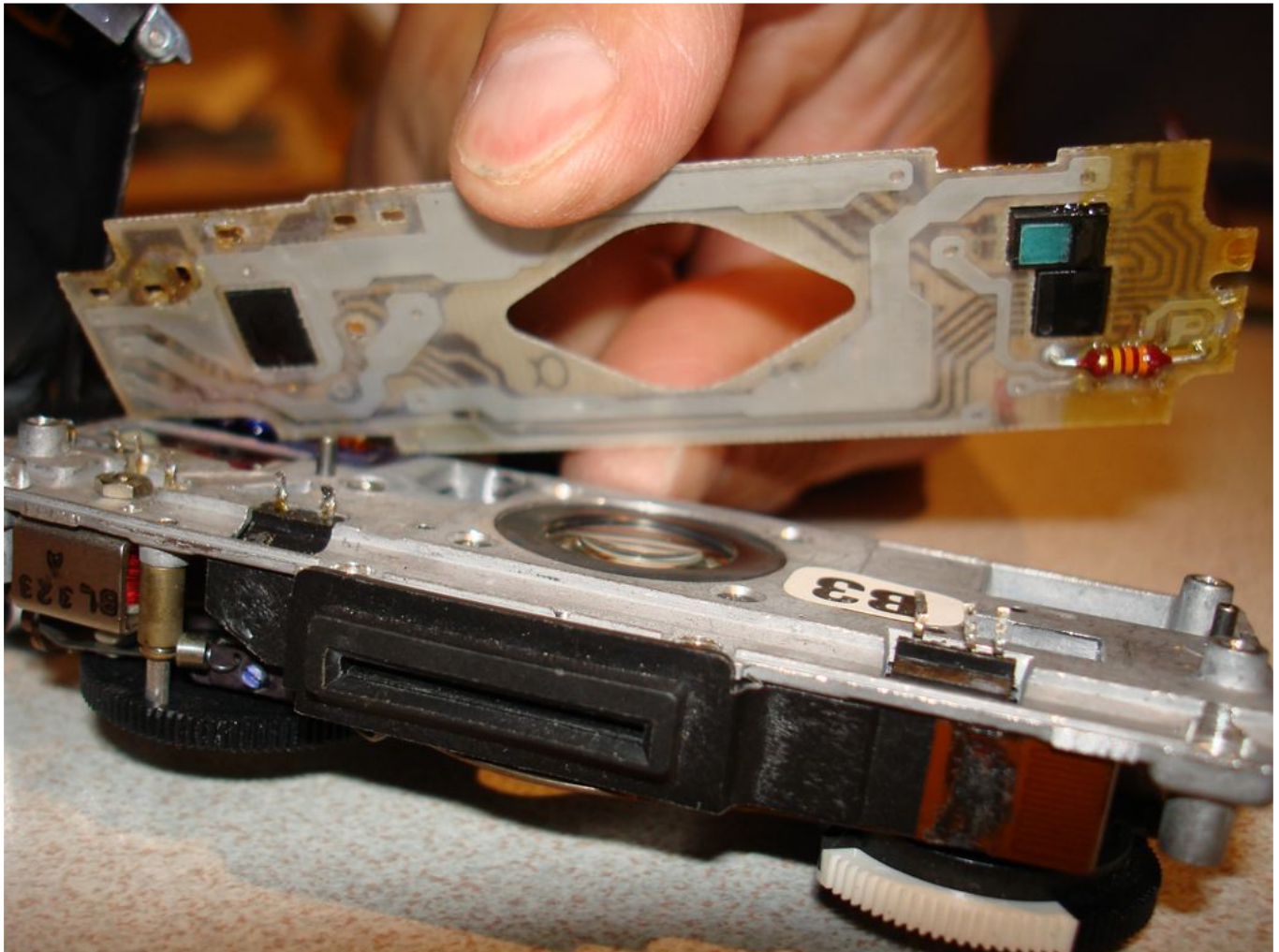
[DrRickDaglessMD](#) 12:29am, 14 August 2008

Hey everyone,

I'm attempting the internal electronic modification and Georg of the superlative

www.chemie.unibas.ch/~holder fame suggested I post a photo of my board on here, should the Capacitor value not be apparent.

So, here we are:





I'm hoping someone can tell me the spec of this capacitor, and if anyone has completed the modification on a camera with this build - what size cap they found worked best in all conditions for them!

For a bit more clarification, the Land List identifies my sx-70 as:

Your camera has the original SX-70 shutter electronic design ("hybrid shutter").

Your camera is probably an original SX-70 or Alpha / Alpha 1.

The serial number itself is: 64387

Your camera was made on January 11, 1974 during the B shift.

Thanks,Jim

the_Craigen [borrado] hace 8 años

I think I remember Okto (one of the Flickrers who does electronic mods) saying that most models of SX70 seem to have a narrow range of caps that work best, but that the original model seems to be all over the place...

Hopefully he'll get his rear in gear and see this, or maybe JRJacobs (another e-modder) might have some info on that for you.

[polapix](#) hace 8 años

I have a board that looks exactly the same as yours.

The capacitor is a bit different (rounded, blue with no markings).

The measured value is 746 pF

Try 150 or 180 pF for 600 film.

I used small ceramic capacitors for my mods.

I didn't modify a camera with that circuit board myself.

Anyone who knows better please step forward

[skronk!](#) hace 8 años

It seems that Okto has disappeared along with the camera and money I sent him. :(

[bambam4236](#) PRO hace 8 años

I have seen SEC caps before but from memory they usually have a 3 digit code for the caps value, probably a pf value.

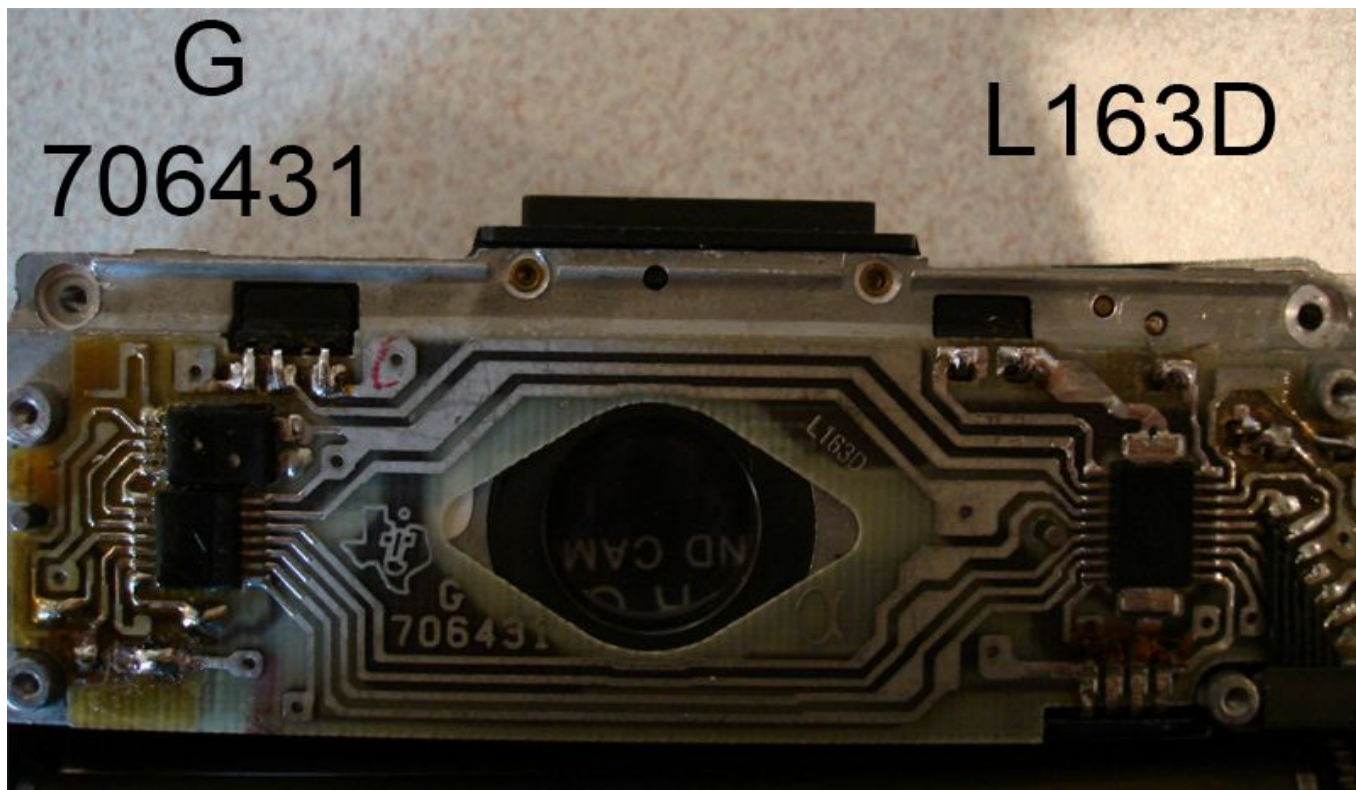
Have you got a multimeter with a capacitance tester? I'd suggest trying that to get the value of the cap. If you don't have one maybe try a local electronics repairer, i'm sure if you walk in and ask nicely they might check it for you.

I think the exposure circuit changed over time (at least in the parts used) so i think it would be better to confirm the value then just try what others have done, i've read of people using quite different values depending on their camera to get this right.

[DrRickDaglessMD](#) hace 8 años

Thanks for all the help so far guys, I really appreciate it.

As for the numbers on the board:



Hope that helps.

On another note, does anyone know what causes kind of milky/cloudy spots or bands on ejected polaroids? I wondered if it was a problem with sticky rollers but they seem to move fairly freely and consistently under my fingers.

- Jim

the_Craigen [borrado] hace 8 años

DrRick:

It could be dirty rollers causing the goo to spread unevenly. A little alcohol and a qtip is all you would need to clean them.

Spots could be caused by a light leak, though I don't think that would cause a band across the image.

We might be able to help you more with the diagnosis if you would post an example or two.:

[DrRickDaglessMD](#) hace 8 años

Thanks Justin, I was just apprehensive about going a bit off topic by posting pictures here, but I guess it can't hurt:

The cloudyness is visible on this one in a band across the centre, being worst in the center and right:



This one appears much more evidently on the original, the cloudy/light band extends from about an inch from the bottom of the frame all the way to the top.



On ejection, it seems like the motor is a little bit laboured which is why I thought it was the rollers. Exactly how free should they be under the fingers? At the moment, it feels like there is some friction/resistance from the cogs at the side, but it doesn't seem to get stuck at all (I don't want to give the impression the rollers are hard to turn, simply that you can feel some resistance of the cogs turning; they don't freely spin like a bicycle wheel).

- Jim

[JRJacobs](#) hace 8 años

Jim -

Try a 100pf cap - should do the trick based on the circuit board.

As for the white areas on your photo - looks to me like you have a light leak somewhere on the camera.

[polapix](#) hace 8 años

Check / clean the taking mirror.

(accessible through the film door)

[rise3high](#) PRO hace 8 años

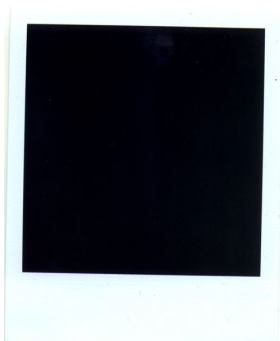
DrRD--is your film fresh or expired?

i've seen some of that milkiess on exp. film.

(just another theory)

[DrRickDaglessMD](#) hace 8 años

JRJacobs - I already tried experimenting with a 150pf cap, but the results were that the polaroid was extremely underexposed.



As you can see at the top of the frame, there is some exposure taken place (so I know the shutter hadn't malfunctioned). It was taken at the same time as the first polaroid above, of the same place (around midday, overcast but bright).

The 2 'cloudy example' polaroids above were taken with the original cap, no faceplate (so no filter on electronic eye), set to fully darken. The scans make them look darker than the originals, they are quite noticeably overexposed in the originals.

the film expiry is 05/09.

- Jim

[JRJacobs](#) hace 8 años

Jim -

It is possible that when you soldered the cap on you didn't make a good contact? It certainly shouldn't be that dark even if it is the wrong value.

[DrRickDaglessMD](#) hace 8 años

At the time I inspected the joints, I'm pretty sure there was a good contact. What is the original cap value in your records?

If you're confident the cap should be ~100pf, I'll try that cap again.

- Jim

[DrRickDaglessMD](#) hace 8 años

Hey guys, sorry for the late reply - the reason I was in a rush to complete the mod was so I could take it with me on my trip to Brisbane (where I am now).

The 100pf cap worked a treat, I must have made a mistake the last time I tried it, so thanks for all the help everyone, I really appreciate it. I've already got some great shots of the trip with the sx-70, I'll be sure to post the best ones in the group to say thanks!

Cheers,

Jim

[skronk!](#) hace 8 años

Hi all,

Just want to note that I did receive my camera from okto over the weekend, and it seems to work great. I never did get a reply to my emails, however, and though he last told me that it was sent before 7-16, the label on the package had the date 9-2.

[Andre Salyer](#) hace 7 años

Hi, I'm new to the SX-70. I am interested in obtaining and electronically modifying an SX-70 to shoot with modern ISO speeds. I have read all of the above postings, and can see that it may be difficult to find someone to do this. Any further information, or links to other discussions much appreciated.

||| o_o||

ANDRE

[edward™](#) hace 7 años

www.holgablog.com/2009/09/10/sx-70-electronic-modification/

[tobias feltus](#) PRO hace 6 años

I am unable to figure out how to remove the black paint from the board, and hence have no idea how to establish the cap's value. Does anyone have a list of the ratings for different board models?

[chrisstapledon](#) hace 6 años

A hot soldering iron will get the paint off. Then, in my experience, the best thing to do is remove the capacitor, solder on some "legs" (i just use inch long pieces of solder, and test it in a multimeter. This will give you the reading.

[edward™](#) hace 6 años

All boards were calibrated individually..and so different cap and resistor values differed. Get a mutimeter and go from there. There is no one "general" value for any of these cameras. And that black stuff is conformal coating. Use tweezers to pick or scrape it off.

[tobias feltus](#) PRO hace 6 años

I shall have to invest in a multimeter that claims to read capacitance. I am a little confused by the seemingly arbitrary specs on meters. I might take out the cap, and take it down to Maplin and see if any of the display meters give any hope, before purchase.

[geyes30](#) hace 6 años

Hi guys,

I have benefited greatly from the discussion here, so I thought I will give back a little. The capacitor originally used in the camera was rated for 200 volts. I think the rule of thumb is that you can use higher voltage-rated capacitors, but not lower ones. However, I can confirm that I have used a capacitor rated for 50V and it works just fine. Seems like the original capacitor was already over-spec-ed.

Also, a 180pF 50V capacitor is very small, so I managed to solder it on the back side of the board (i.e. on the opposite side of the original capacitor) by bending the capacitor legs. I don't know about you, but I thought it was incredibly difficult to load the new capacitor from the side we have no access to, while wielding a hot soldering iron and stuff. In any case, I am happy to report that despite cooking my PCB some, the camera works without a filter now! :D

Finally, I also want to make a note of the capacitance rating -- mine had a 681 capacitor, which is a 680pF capacitor (68×10^1). A 104 capacitor, then, will be a 100000pF or 100nF capacitor.