

FYI, on the flip side of this letter is a circuit schematic for the first Asahi 1° Spotmeter circa ~1968.

I obtained the diagram by tracing the circuit inside the meter. Took about an hour! I will e-mail you the .gif file if you want. You can place it on your website.

Since mercury batteries are now unavailable for this meter, I substituted a silver-oxide cell in its place (a 392 size silver-oxide cell). Silver Oxide potential is 1.55 vdc compared to the 1.35 vdc (mercury cell), so the needle will read about a stop-and-a-half high compared to the original voltage.

The meter can now be recalibrated by adjusting R1 to a higher resistance, but problem is that factory potentiometer R1 is only 2200 ohms, and runs out of adjustment range (with the new battery voltage). It needs about ~3500 ohms, so I substituted a little 10k ten-turn pot in its place, and re-calibrated the meter with a grey card and three other TTL meters I have here. Close enough.

In order to fit the much-smaller silver-oxide cell into the battery compartment, one has to fabricate an aluminum adapter about the same size as the original battery, that the new cell lives in. We did it on a metal lathe.

Also the meter has a number of metal-to-metal switch contacts that easily oxidize over time and cause the reading to either become erratic or fail completely.

They oxidize from battery outgassing ! Without question, these un-reliable mechanical connections are the weak point of the design.

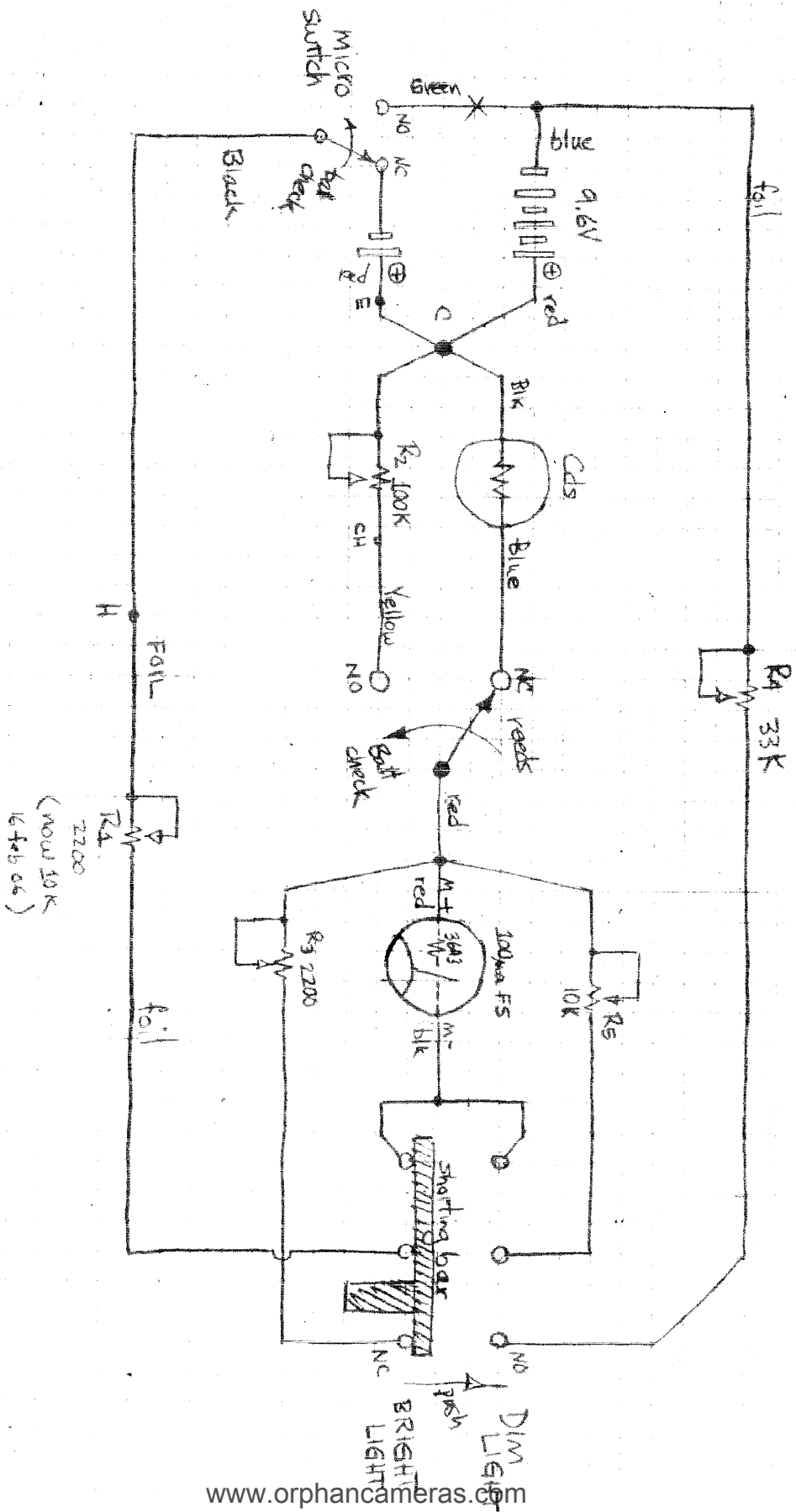
The way that Asahi engineered the Low/High switch, the battery-check reeds and the battery tab is really poor.

(Especially the battery tab. I gotta clean that one with my pocket knife about once a week !!)

I wonder how many 1° Spotmeters have been tossed into the dumpster due to this deficit.... Other than that, it is a marvelously precise instrument, and is extremely useful for zone-type photography.

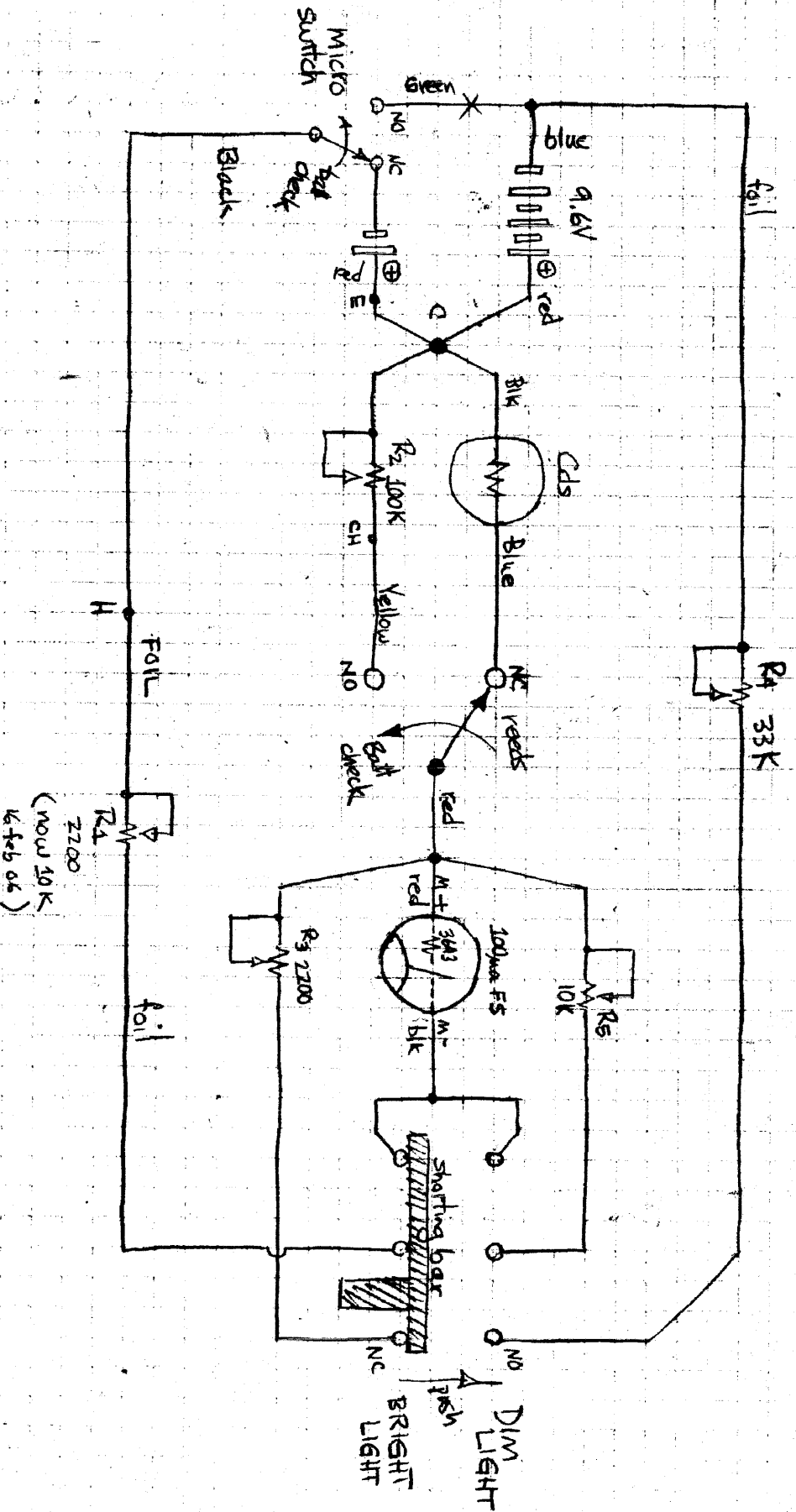
I bought mine in 1969 and didn't find much use for it until this year. Now it is the only meter I use.

Asahi Spectrometer K Redraun 16 FEB 06



Cds cell $\approx 10k$ for f_{160} in bright sun
Meter $100 \mu A$ full scale, $R_m \approx 3643 \Omega$

Asahi Spectrometer K Redrawn 16 FEB 06



Cds cell $\approx 10K$ for $11.5 @ 100$ in bright sun
 Meter 100µA full scale, $R_m \approx 3643 \Omega$