

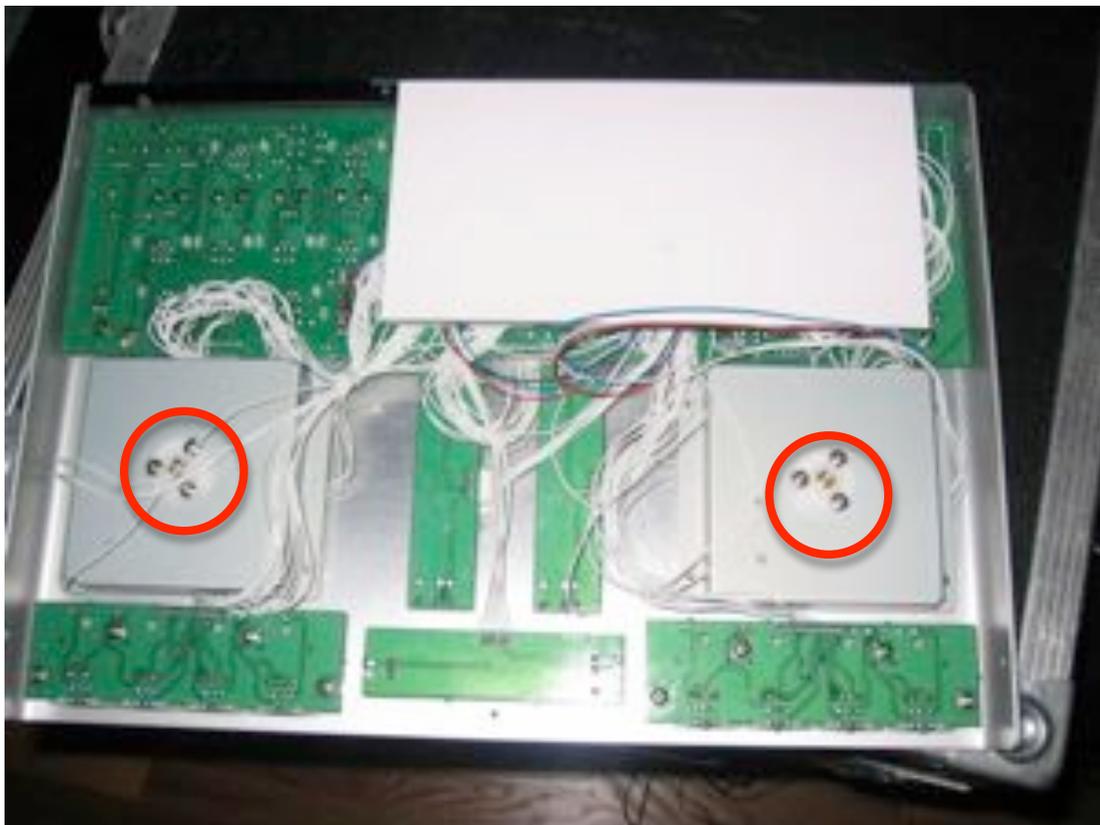
VCI-100 ENCODER MAINTENANCE

A lot of people are having issues with stuck jog wheels. In some cases, there was some grinding that you could hear. In this article, I'll show you how to disassemble your VCI-100 and fix the jog wheels. Its pretty straight forward, all you really need to be good with is a screwdriver.

- 1) **Take off the cover.** Pretty simple, just remove the 2 screws on each side (making 4 screws) and one screw on the back (see reference numeral 1). You can slide the back off now. Whew! That was almost rocket science.



- 2) **Locate the plastic guard of the jog wheel you are interested.** The picture says it all.



- 3) **Adjust the tension of the plastic guard**

Try adjusting the screws to change the resistance applied to the axle of the jog wheel (see reference numeral 2). I've read that this fixes some problems. It did not fix mine though because of the grinding I could hear. Anyway, if it works for you, put it back together and you are done.

4) Remove the plastic guard and lubricate the axle of the jog wheel

Pull the three screws out and remove the plastic guard, which exposes the insides of the optical encoder. I know Vestax calls it a PULSE sensor, but all its just an encoder with a capacitor. Its not apparent in this picture, but as will be shown in detail below, there is a metal piece that contacts the axle of the jog wheel. This is necessary to electrically connect the capacitor of the jog wheel to the circuit board.

If you hear grinding, its most likely because of the metal piece contacting the axle. So all you really need to do is lubricate the axle. However, don't just use any lubricant (specifically, WD-40). Use a lubricant that is meant for metal-to-metal contact, such as a silicone. I used a dimethyl silicone, however, you can use almost anything. The Caig lubricants would probably be a good bet.



Two warnings though! First, **only use a single drop of lubricant** – seriously. A single drop is more than enough. Secondly, try to make sure the lubricant is electrically conductive. The lubricant can cause the contact resistance (the electrical contact

resistance) between the jog wheel axle and the metal piece to increase – which can make the touch sensor less sensitive.

Now, you can replace everything and resume operation. Sometimes, you may want to remove the lubricants (using real cleaners like alcohol, degreasers, etc.). I just wanted to see the guts of the VCI-100. Specifically, I wanted to check out the encoder to see how accurate it is.

5) Remove the jog wheel plates on the front of the VCI-100.



6) Remove the four screws holding the encoder in place. Note that these screws have absolutely no bearing on how well the VCI rotates, they are just to hold the encoder in place.

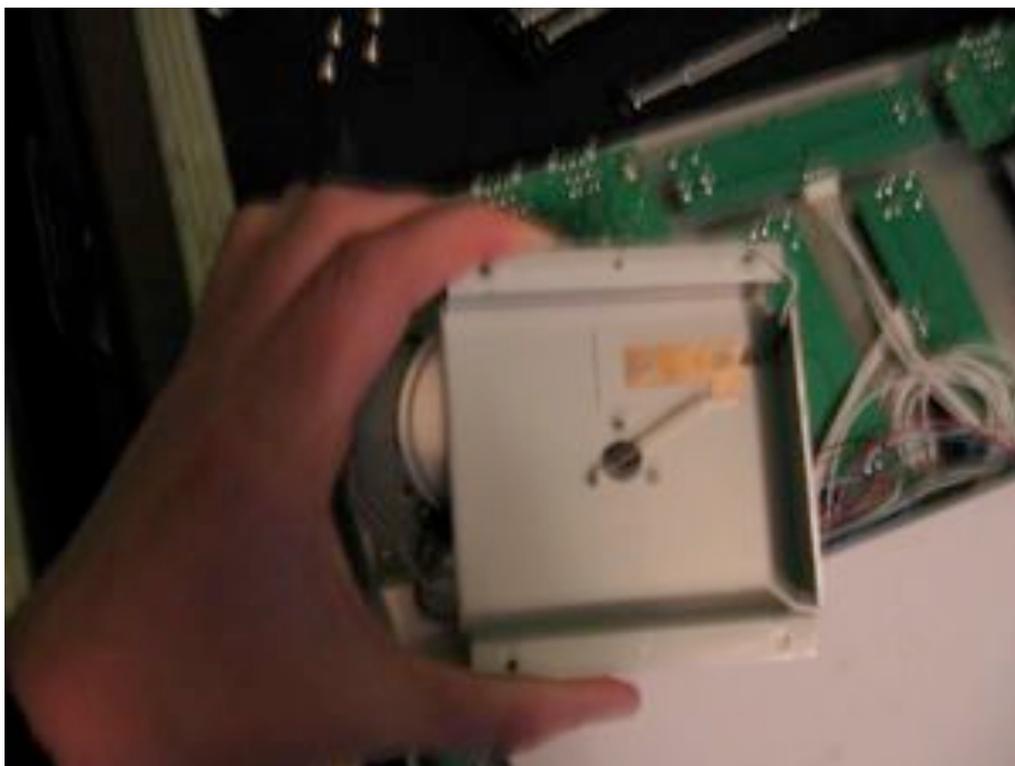
7) Flip the VCI-100 over and open the encoder by removing the four screws.



- 8) **Remove the four screws on the corner of the encoder and open the encoder.**
Remember when I said there was a metal piece – notice the metal piece is connected the other circuits of the VCI by that wire.



Like I said, the jog wheel is just an optical encoder. Now, there are definitely lots of grooves in the encoder, so one day, it may have to be cleaned.



There is a better picture of the metal piece that contacts the jog wheel axle. Its not too clear, but there is a wire that is connected to it.

- 9) Put it back together. Like I said, its not that hard to disassemble the VCI-100. The other nice thing is that the PCB's are through hole, so soldering to them should be too bad. Perhaps that will be the next mod – replace the LED's.