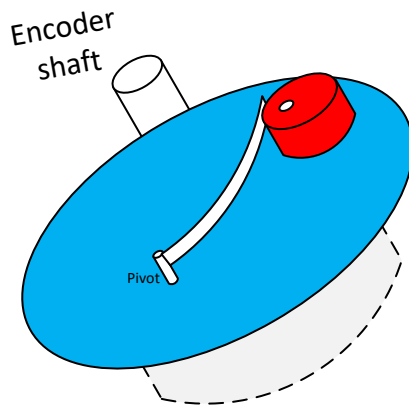


Friction for the VFO tuning encoder

Users have commented that the current ball bearing encoders in the Odin console are too free running. We need a way to provide repeatable, variable friction.

High-end Yaesu radios have a variable friction setting for the VFO tuning knob. We may need something similar. A friend and I came up with a possible implementation, which would need to be moulded or 3D printed behind the VFO knob.



1. The encoder (grey) mounts behind the PCB with its 3 screws
2. A plastic base (blue) mounts in front of the PCB, using the same screws. The base has two moulded / printed pivots or spindles:
 - a. One for an eccentric cam (red)
 - b. One for a phosphor bronze strip (white)
3. The phosphor bronze strip (white) presses against the side of the encoder shaft, to provide variable friction. (It might need a piece of plastic attached to press on the shaft – don't know).
4. The eccentric cam (red) is on the other pivot, and is rotated by a user knob next to the VFO knob. Because the red part is eccentric, it bends the phosphor bronze strip by an amount that depends on its angle.
5. The cam (red) could be turned directly (with a 90 degree adjustment range) or could be geared from a separate knob if finer adjustment was needed.

We'd need a 3D printed base and cam to be able to prototype this, and space on the PCB front around the VFO encoder. I imagine we could make this fit the current prototype.