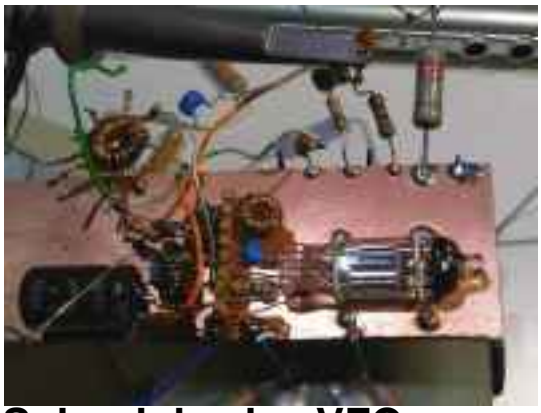
This is the story of my quest to build an all-tube VFO for 26.0 to 26.5MHz, for use in a 21MHz SSB/CW

An oscillator needs to be reasonably stable - the frequency should not drift too severely as the temperature changes. This is more challenging with a valve VFO than a solid state oscillator. Even with solid state, it would be very difficult to build a stable enough LC VFO at 26MHz. The best approach is to build a lower frequency VFO and mix it with a stable crystal oscillator to get the desired output. Right from the start, my aim was to build an LC-VFO for 6.0-6.5MHz, mix it with a 20MHz crystal oscillator, and select the 26MHz sub with suitable filtering.



## 1. Sub-mini valve VFO

First attempt is to build a stable 6MHz VFO using a type CK512AX sub-miniature tube, originally used in

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## 2. Mixer VFO mk1

The next attempt uses 1AT7 crystal oscillator and VFO; 6BE6 mixer, and EF91 buffer. It produces a 26

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## 3. Mixer VFO with insulated tank components

The same circuit as 2, but now with the tank components insulated, and the tubes in the open for better

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## 4. Mixer VFO using battery valves

To reduce the warm-up drift, this mixer VFO now uses low power battery valves - DF96 VFO, 1T4 crysta

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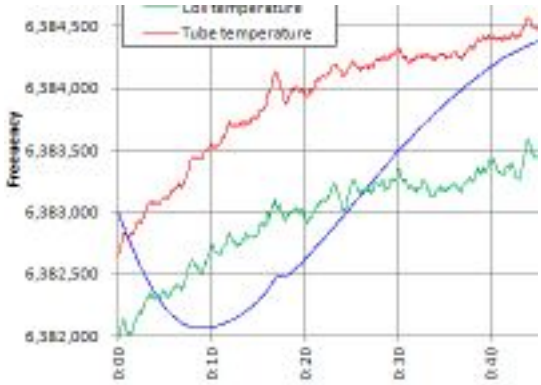
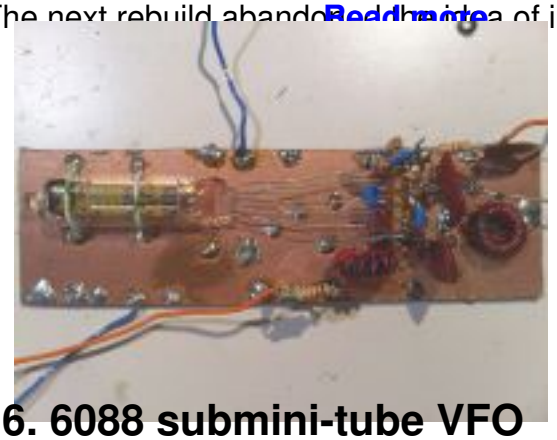



## 5. DF96 VFO and logger

The next rebuild abandoned the idea of insulation, which seems to slow down drift but not eliminate it, in



## 6. 6088 submini-tube VFO

One reader kindly sent me 6088 pencil tubes to experiment with, and they seem much more su

## 7. Dual-6088 Franklin VFO

Another dream was to try a Franklin VFO. Here I did so using the pair of 6088's, and had no trouble

## 8. BC221 Tuning capacitor

I found a very nice air-variable tuning capacitor in the junk box, which seems to have been designed for

## 9. Boxed Franklin VFO

Since the dual-6088 VFO is my favourite, and seems the most stable, of any of those so far tried on this