The EWV - Eric's Wonder VFO - from Neville ZL2BNE

It was only a few weeks ago I contacted Neville to ask if he knew anyone who might pull together a programme for a digital VFO. Neville immediately volunteered!
This partly came about because while the ZL2PD SugarCube met my needs – there were some who really needed a menu. This meant I could programme a chip for them and they only needed to alter the parameters in the menu for their needs. Or they could learn to do that simple programming routine for themself.

So began a couple of weeks of testing to come up with a programme which is still undergoing changes.
At this stage we have a programme which requires only the hex file to be put into the flash ram of the Arduino. It then has a menu which can :- 1. write the start frequency, 2. write the LSB filter frequency, 3. write the USB filter frequency and 4. write the calibration for the si5351, to the eeprom. The calibration can be simply ajdusted while looking at the output frequency. A fifth choice is currently deleted.

While the file is working as planned, there are some limitations we are working on.
The vfo currently only has additive mixing of the bfo – so that, for instance, if your desired operating frequency is 7.00 mhz and your i.f. frequency is 12 mhz then the vfo will output 12mhz and 19mhz on clk1 and clk2. Clk0 will output 7mhz (this may yet be altered if it causes interference).
The LSB/USB are chosen with a digital pin taken low, (see the circuit diagram).

There is also a feature for the ZL2BMI transceiver, so that if another digital pin is taken low, then the outputs on clk1 and clk2 change over. This gives the transceive signals without needing the relay.

The hex file will be found in the download section of these files. Currently we will not be releasing the sketch. You will also find a wiring diagram for the VFO which Neville has produced, though there is a cropped version on this page.
You are welcome to try this – but it is definitely a work in progress. Eric. ZL2BMI