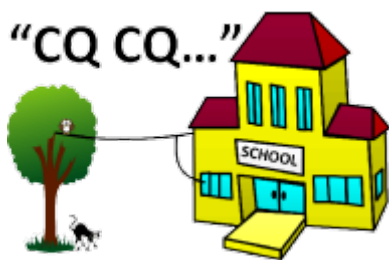




Homebrew Group Newsletter  
#49 April 2018

Compiled by Rob Whitmore  
VK3MQ



Was your introduction to Amateur Radio via a school radio club? Two of the Homebrew Group's most active members, Joe VK3YSP and Julie VK3FOWL have been doing a fine job recreating that experience for a new generation.

In that process they have developed a number of projects many of which were "workshopped" at the regular monthly meetings.

The projects can be found at: <http://www.sarcnet.org/projects.html>

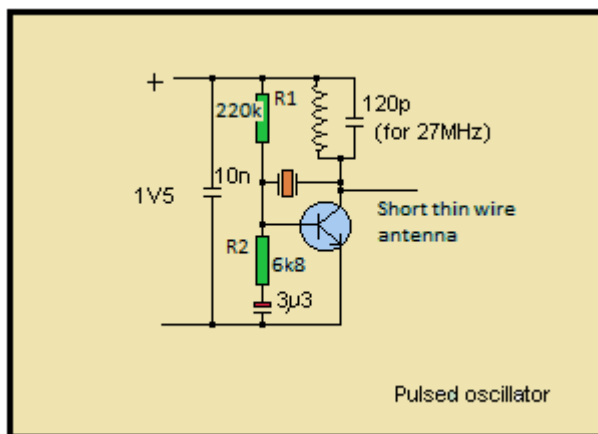
- G3VWH provides a pictorial compendium of his homebrew achievements <http://www.g3vwh.com>
- For some time VK3MQ has been working on a transceiver project based on the G3ZVC board using Plessey SL600 series integrated circuits. The design was revolutionary in 1969 but had a number of problems that caused a revision some years later by G4CLF.

Now KF6C brings the concept into the 21<sup>st</sup> century.

<http://www.kf6c.com/Designs/G3ZVCmkII>

- Etching PCB's using iron on transfer. <http://www.esmonde-white.com/home/diversions/etching-a-copper-pcb>
- "Built not bought" is N6QW's mantra which he demonstrates here: [http://www.jessystems.com/2009\\_XCVR.html](http://www.jessystems.com/2009_XCVR.html)
- A QRP transceiver by KD1JV <http://www.arrl.org/files/file/QST/Homebrew%20Challenge/HBC%201%20Winner-KD1JV.pdf>

- Terminating coaxial cables with plugs need not involve melted dielectric. There is a better way using crimping techniques. Although initially expensive the resulting reliability pays for itself. Keep watching the you-tubes to find the coax type of interest to you. <https://www.youtube.com/watch?v=-Tgptf7czrk>
- Measuring VSWR at microwave frequencies can be a challenge for the average amateur. VK4ADC has a solution! <https://www.vk4adc.com/web/microwave-projects/64-test-equipment/83-microwave-rf-bridge>
- Also from VK4ADC is a nice box of tricks to aid identification as field day antennas are being positioned. <https://www.vk4adc.com/web/picaxe-projects/38-audio-detection/67-picaxe-08m-tone-gen>
- Before constructing that antenna give some consideration to the materials! <http://www.arrl.org/galvanic-corrosion>
- VK3ZZC solders to aluminium <http://users.monash.edu.au/~ralphk/solder-aluminium.html>



Eric VK3EAC continues his series of weekend projects with :

### A pulsed RF oscillator

This circuit will provide a pulsed RF output similar to devices attached to animals for tracking. It has very low power requirements.

The crystal can be of a frequency to suit the receiver used. For this example a 9 MHz crystal that will operate in overtone mode at about 27 MHz is suggested with inductance/capacitor combination that will resonate at 27MHz in the transistor

collector circuit. A crystal of about 9.5 MHz will give an output in the 10 m band. For 27 to 29 MHz the inductance will be about 0.3  $\mu$ H. Try 9 turns wound slightly spaced on a 6 mm drill shank to a length of 10 mm. For initial testing, disconnect the electrolytic capacitor. Open or compress the coil turns to get the circuit to oscillate. (A cored coil (less turns) will perhaps make it easier to tune and ensure oscillation.) Expect the circuit to oscillate at about three times the fundamental frequency – the third overtone frequency. Old CB type (9MHz) crystals should have the frequency marked and easier to find the signal on the receiver. R2 may need to be changed to a different value for best results. Experiment with the value of the electrolytic capacitor. (1 to 4 $\mu$ 7). The common BC107 transistor works satisfactorily at less than 1.5V!

Finally something to consider as you start your next project:

“You can never make your dreams come true by oversleeping.”

73's Rob VK3MQ

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