

Vintage Radio at G3GGK

by Peter Simpson, G3GGK

I was licensed in December 1949, when I lived in Leicester, and moved to the Nottingham area in 1954. I held one of earliest mobile licences and operated 160 metre mobile for several years. I built all own equipment until mid 1960s, by which time had moved to Hertfordshire and subsequently to Cambridge.

Currently my main interests are restoring vintage and classic radio equipment and keeping skeds with ex-work colleagues, some of whom live in Spain now. I operate Data on 80 and 20 metre bands and have just got PSK 31 up and running. I still listen to CW and occasionally plug in the key. I have two vintage/classic stations as shown in the photos. The aerials at present are a double extended Zepp on 20 metres (84 ft. Doublet) and a Cushcraft R5 Vertical. I can operate all bands 80-10 metres on CW/AM/SSB or data, but spend a large proportion of radio time just listening. I am also very keen on Big Band music of the 30s and 40s and spend a fair amount of time in front of the loudspeakers.

Details of Equipment, 1950s Station

This is the Collins A line and consists of a 75A-2 receiver and 32V-3 AM/CW transmitter of 1952 vintage.



The receiver covers all the pre-WARC bands from 160-10 metres and is double conversion using a crystal controlled first oscillator and a permeability tuned VFO for the second oscillator giving 1 MHz. wide bands. First tunable I.F. is 1.5-2.5 MHz. (used straight through on top band) and the second I.F. is 455KHz. I have added a product detector and SSB reception is very good. A Xtal gate filter is used at 455KHz which is very good on CW but is too sharp on SSB. This receiver was purchased in rather rough condition but has restored well. It is very stable and frequency readout is good, (better than 500 Hz using calibrator at 100KHz points).

The 32V-3 transmitter runs about 150 watts input CW and 120 watts AM phone. The PA is 4D32 which is about equivalent to two and a half 807s. Frequency generation uses a similar PTO to the receiver and covers 3.2-4.0 MHz. followed by a string of multipliers to drive the PA on all bands 80-10 metres (including the old 11 metre band). All multiplier tuning is ganged to the VFO and only the PA tune and load controls require adjustment when moving frequency or changing bands. The output filter is a Pi/L combination giving good suppression of harmonics and an acceptable range of matching impedances. Anode and screen modulation is used with a pair of 807s in transformer driven push pull class AB2.

Other equipment shown is a Heathkit VSWR meter and a Collins 180S-1 wire aerial tuner of 1960s vintage.

The World map is interesting, it appears to be just pre-WW2 and of course isn't much good for locating countries now, however it does lend ambience to a vintage station.

Details of 1960s Collins Station

Starting at left hand side of desk, a D104 crystal mic., 516F-2 PSU with a 302C-3 reflectometer sitting on top. Next a 32V-3 SSB/CW transmitter followed by a 75S-3 matching receiver. Ignore the ICOM 756 which is my data station. On the lower shelf at the left is a home brew Z-Match tuner in a Collins PSU case with a 7 MHz QRP rig on top. Next is a 100watt Collins dummy load followed by a KWM-2 Transceiver and its 516F-2 PSU. On the top shelf is a Collins SM3 microphone and a 312B-2 Loudspeaker.

All of the Collins equipment uses identical



frequency generating systems. This consists in the receivers of a permeability tuned front end with crystal controlled first oscillator. This is followed by a tuneable IF of 2995KHz to 3155KHz giving 200 KHz wide bands. The standard sets have 14 xtal positions and the /A or /C an additional 14.

The VFO is a linear slug tuned oscillator which covers 2.5-2.7 MHz thus converting the first IF down to 455KHz where mechanical filtering provides the excellent shape factor of the final IF. Later versions of the receiver have provision for several filters but the transceiver uses only one of 2.4 KHz bandwidth.

The transmit path is a reverse of this process where audio from the microphone amplifier is balanced modulated to produce double sideband at 455KHz and then via the SSB filter and the

conversion chain to final frequency. All transmitters use a pair of 6146 valves producing a nominal 100 watts output.

The unusual valve boxes standing on the top shelf are pre WW2 RCA 807s and are quite attractively printed with world maps.

Finally the bug key on the desk is WW2 vintage, it is a copy of a Vibroplex and was apparently built under licence by a railroad company in the States, looking at the finish of the key this is believable.

I hope this description of my vintage station is interesting, the whole project stems from my inability as a young operator to even contemplate purchasing Collins when it was new and in the Rolls Royce price bracket. Mind you when I look at prices on E-Bay now I am glad I have achieved my ambition just in time.
