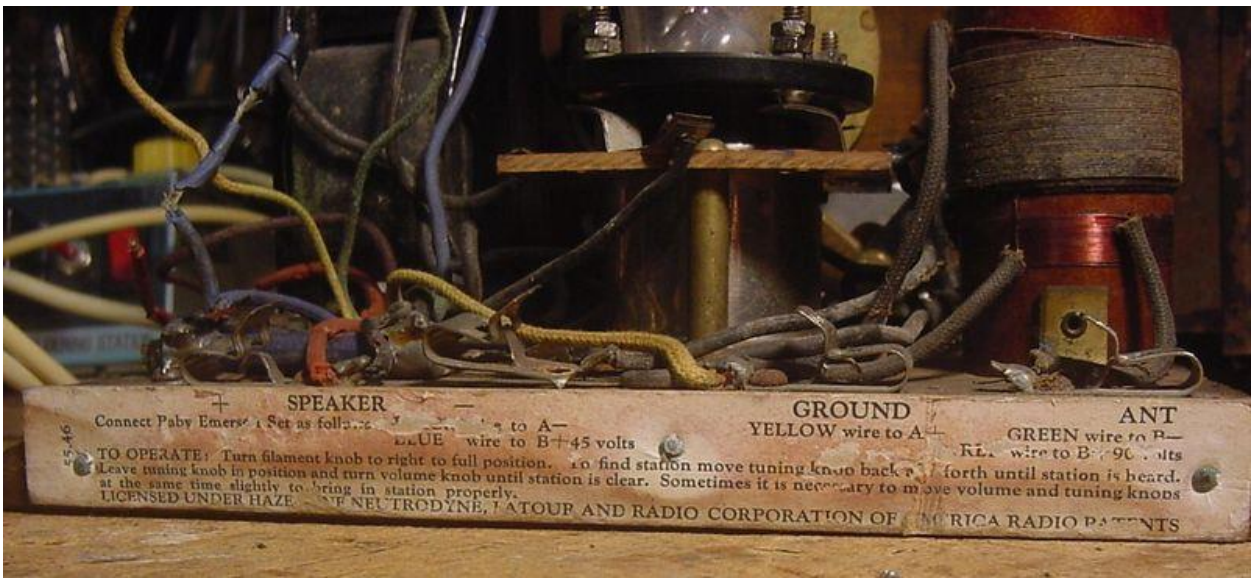
The ‘Baby Emerson’ – Gerry O’Hara

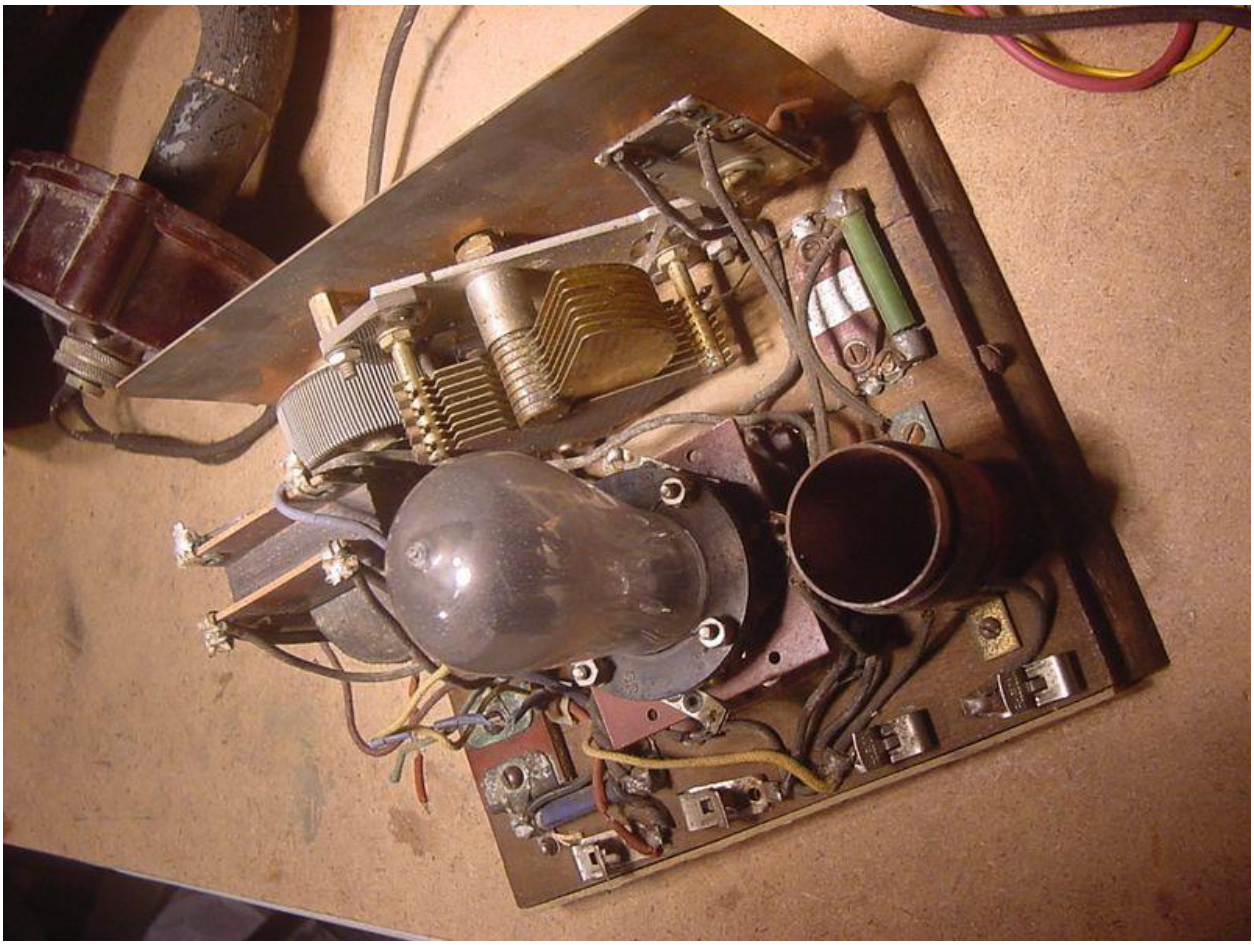
This ‘Baby Emerson’, manufactured by Clapp-Eastham in 1927, is a one tube set that can drive a loudspeaker due to it using a rather unique tube – one of the earliest commercially-available multiple valve assemblies constructed in one envelope – a triple triode with a common filament (actually three filaments in series). The tube is called the ‘Emerson Multivalve’ (not to be confused with the Emerson Radio and Phonograph Co.) and was only made for a couple of years around 1926/7 by the Clearton Vacuum Tube Co. under the ‘Emerson Radval Corp.’ name, who's premises was back-to-back with the Clapp-Eastham radio factory in New York. The following website provides some further details: http://www.antiqueradio.com/bintliff_multivalve_4-97.html. This tube is also mentioned in 'The Saga of the Vacuum Tube' by G.F.J. Tyne. The horn is the original fitment but is rather worse for wear - it has an interesting construction, looking like it was made from papier-mâché stuffed into an old sock.

Unfortunately the tip of the Multivalve tube in this example is snapped-off and it has no vacuum. Sourcing a working one from anywhere would be next to impossible given they limited production life and, as far as we can ascertain, its use in only two sets (the other being the Standardyne Multivalve). Consideration was given to re-evacuating the tube, however, this was not attempted due to concern over possible permanent damage to this rather unique tube. Given this, no attempt was made at restoring this receiver other than cleaning.

The receiver circuit is very simple: the antenna is inductively-coupled to the coil of a parallel-tuned RF circuit feeding the first triode (G3) a grid leak detector, with inductive coupling from its plate circuit at audio frequency to the grid (G1) of the second triode as the first AF stage, the plate of which is

capacity-coupled to the grid (G2) of the third triode, the coil of the horn speaker forming its anode load. Volume control is effected by a grounded series-tuned circuit inductively-coupled to the main tuned circuit coil. The 'Filament' control adjusts the filament voltage via a 20 ohm rheostat. The set requires a 6volt at 0.25A supply for the filaments (adjusted to provide 5v via the rheostat), 45voltsfor the detector





stage and 90volts for the two audio stages. Apart from the tube, there are only 10 components plus the loudspeaker in the radio. Construction is very amateurish.

Interestingly, the label on the set notes that it is licensed under Hazeltine Neutrodyne Latour and Radio Corporation of America Radio Patents. It also provides the following operating instructions:

TO OPERATE: Turn Filament knob to right to full position. To find station move tuning knob back and forth until station is heard. Leave tuning knob in position and turn volume knob until station is clear. Sometimes it is necessary to move volume and tuning knobs at the same time slightly to bring in station properly.