



RAYCOPHONE
 MODEL 2-20.

CIRCUIT TRACED BY
John van Beest.
 Redrawn by Ray Kelly

⇒ Another Classic Radio, The Raycophone model 2-20

John van Best has traced the circuit of this early model Raycophone at my request. It is quite a simple receiver, but some features need to be commented on. The radio is housed in quite a large table cabinet which, as John Stokes points out in "More Golden Age of Radio", page 62, bears a striking resemblance to the American Keller-Fuller "Radiette" of 1930.

The circuit is that of a conventional Reinartz, with three ^Ntappings on the tuning coil to allow aerial coupling to be adjusted for best results. Grid leak detection is used, with a rather high value of plate load resistance, 500K ohms. Coupling to the grid of the Philips C443 output pentode is via a 0.006 mFd mica capacitor and 2 megohm grid resistance. The C443 was designed for use with 300 volts on the plate and 200 volts on the screen, so the screen is fed from a tap on the voltage divider. Unfortunately over the years the voltage divider has suffered so many open circuits in its winding, that the values cannot be accurately known. John shows 6K ohms for the section supplying the C443 screen, 10K plus 7K supplying the 224 screen and does not specify a value for the section from screen to earth. I would suggest from 5 to 7K ohms.

The power supply uses a filter choke with 4 mFd paper capacitors as a filter, and 1 mFd block paper capacitors as bypasses. These will all surely have a high leakage by now and should be replaced. 10mFd 450 volt electrolytic capacitors will be satisfactory replacements for the 4 mFd paper capacitors, and 0.47 mfd, ~~650~~ 500 volt poly film capacitors will be adequate to replace the 1mFd can types. The old capacitors can be disconnected and left in place if desired. (Ray Kelly)