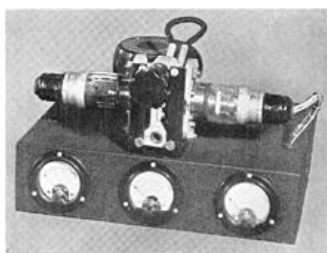


Sperry Early Klystron Amplifier, early 1940



Click on the image to enlarge.

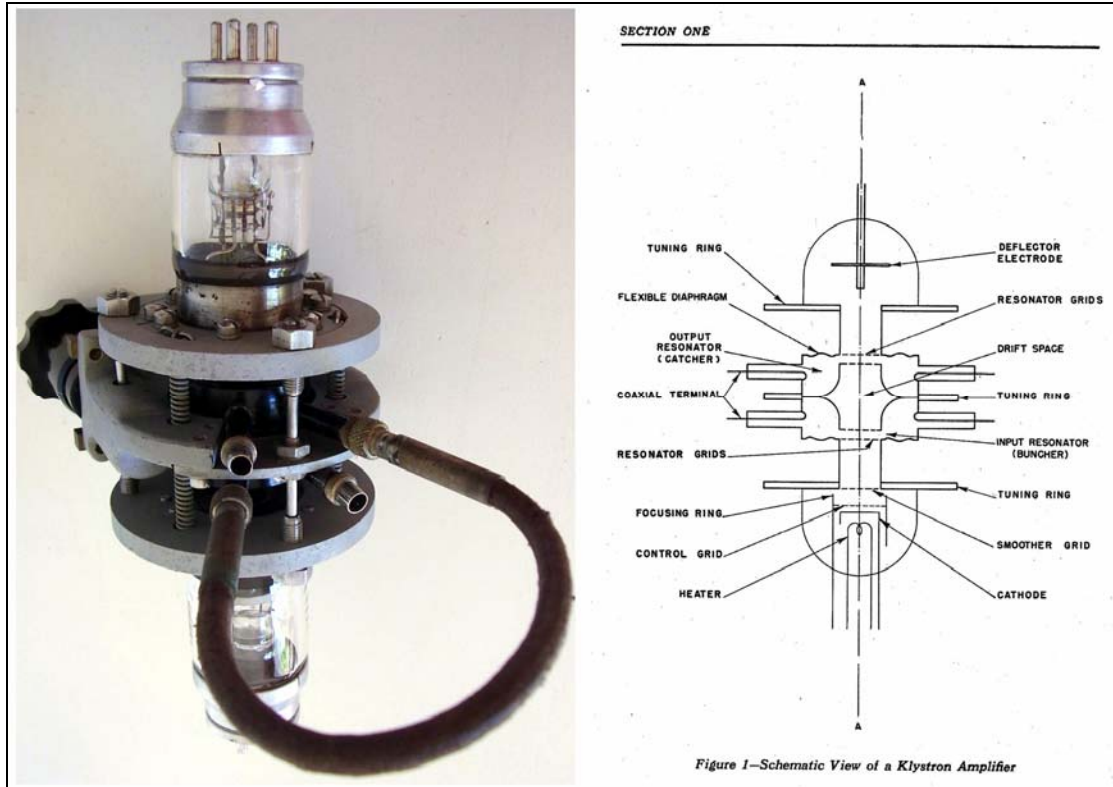
This tube looks to be one of the very early klystron devices manufactured by Sperry Gyroscope Company and based upon the work of Varian brothers at the Stanford University. Prototypes in operation at Stanford appears in [Electronics, January 1940](#). In [November the cover of Electronics](#) is dedicated to the high-power variant developed by Westinghouse under Sperry patents. The above sample is complete with a Type 11-C tuner, the feedback coaxial loop and the top and bottom flying connectors, as they appear in the following image. There is a number, 25378, printed on the body.



An article describing what looks to be a didactic gear using the same klystron type to experiment its operation as amplifier or oscillator, was published in [Radio News, January 1944](#). Looking at the references given in Electronics, the above sample could be dated somewhere from the late 1939 to 1940.

In the next page there is the internal view of this klystron, found at page 6 of Klystron Technical Manual, published by Sperry in 1944. The electron beam travels from the cathode, through the control grid, the focusing electrode and then through the two resonating cavities, the buncher and the catcher. The deflector electrode is biased at the cathode potential, in order to deflect electrons toward the metal top ring terminating the upper cavity. The cavity itself and partially the tuner act as radiator

for the heat generated by the electron beam. Each cavity has two coaxial connectors, usable for input and/or output connection and for the feedback loop when needed. Tuning was accomplished by compression applied to the tuning rings, so to vary the grid spacing of the resonators.



Click on images to enlarge them.

