

Tubes of the Month

The 852 and 860

In the late 1920s, there was increasing interest in the VHF spectrum. Few tubes would operate even up to 30 MHz so 150 MHz was a real challenge. In 1927, RCA introduced a triode designated the UX-852. It was unusual in that the plate came out the side and the grid out the top. To keep the capacity low, the connections were made with wire leads. These tubes were rated at 100 watts and could be used at full power to 30 MHz and with reduced power they would operate up to 2 meters.

Getting a tube to operate above 30 MHz was hard enough but you still had to have enough power to drive it. In 1929, RCA introduced a tetrode designated the 860. The same envelope and connections were used except for the very long screen grid that connected through the base.

Before WWII, the Navy was developing transmitters like the TBL for their ships. The US military always was looking for a strong design and then building mass quantities and installing them in everything. Space is always a premium on ships, so they liked tall and narrow equipment. The 860 could be used at all frequencies with low driving power and would work well as an oscillator. It could also be mounted upside down, which simplified construction and circuit connections. With a stack of 860s and a larger version the 861 in the output, the Navy had their utility transmitter. They seemed to put them in everything that floated. Even submarines got them although I could never see how they ever got them installed. These were very heavy. Even the Japanese Navy thought they were a good idea and produced their version the D-860.

After the war, large numbers of these tubes were available on the surplus market and had a brief popularity until better and smaller VHF tubes were developed.

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