

## Tube Of The Month

# UX-245 – 45

### Depression Era AM Phone

In the late 1920s, AC operated radios became available after the hum problem from the AC filaments was solved. With AC power, more powerful radios that could drive a large speaker were possible. The need for audio output tubes that would handle the increased power resulted in a number of tubes being developed. In 1929 the UX-245 became popular in this application. In the early 1930s, the tube was renamed the 45 and became popular with hams just getting started. A 45 could usually be found in a dead broadcast radio and if the power transformer still worked, you were in business. This was the depression and few had any money for expensive equipment.

In 1934, my father and his best friend, who lived across the street, got their licenses. My father was Don, W6LLA and the neighbor was Albert, W6LID. Grandmother's bread pan was appropriated to serve as a transmitter chassis. A 45 tube and a coil were mounted and wired as an oscillator on 160 meters. This was as high as a 45 would operate as an RF oscillator. AM phone was the popular mode on 160 in those days, but expensive modulation transformers weren't available. The cheap way was to add an extra link around the coil and run a twisted pair to the contacts of a carbon microphone. I understand the microphone was 'borrowed' from a pay phone. This rig had an input of about 5 watts.

The link modulation from this set up wasn't very high and you had to use your "long distance" voice into the microphone. If you got too excited and got too close to the microphone, you got RF burns on your lip. The RF also tended to fuse the carbon particles together inside the microphone, so when you weren't getting out well, you had to rap the microphone on the table and loosen up the carbon.

I got my middle name Albert from W6LID who died in 1939 in a boat sinking in Tulare Lake. Being named after the first LID has been offered as an explanation for my operating skills.

The low mu 45 tubes have become very popular with audio enthusiasts and somewhat expensive. Never give up on an 80 year old tube.

Visit the museum at [N6JV.com](http://N6JV.com)

Norm, N6JV

