

Tube of the Month

833

In 1937, RCA developed a high powered tube that remains popular today. The 833 was a big, stocky tube about the size of a Mason jar. It has a special filament socket and heat dissipating connectors for the grid and plate. At maximum power, it has an output of 800 watts without forced air cooling. This tube could be used by hams who wanted a single tube that would run the legal limit. RCA promoted the tube for hams but it was also adopted for use in many commercial AM broadcast transmitters. The tube had a large zirconium coated plate that had a bad habit of turning red hot in its center when pushed too hard. If the voltage was increased from 3300 to 4000 VDC, and forced air applied, the tube could be pushed to 1800 watts input. By the start of WWII, the tube was designated the 833A.

After WWII and the large number of power tubes like the 304TL being so cheap, the 833A had limited popularity with hams, but was used in several commercial RCA and Gates broadcast transmitters. I remember seeing a pair of them in the big transmitter at the Voice of America in Dixon, CA. They can still be found today in industrial heating oscillators and small town AM stations. In recent years the Russians have been making the 833C that has a carbon plate. The 833(A) is an impressive looking tube and they are popular with audio amplifier builders. The sockets are getting more expensive than the tubes.

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