

Tube of the Month

2C39

During the late 1930s and through WWII, great advances were made with tubes that would operate into the UHF range. They were usually small receiving types with very short leads to cut down on inductance. In 1946, Eimac produced a tube that didn't have leads, the 2C39. This tube was a "planar" triode in that its parts were stacked. The grid is a disk and the plate was placed very close to it. The original tube was glass insulated and rated at 25 watts up to 500 MHz. Later versions were rated at 100 watts and 2.5 GHz+. They came with both glass and ceramic insulators. The military liked them for pulse operation so they were made with longer ceramic insulators to handle the high voltage. The most common use for them commercially was in 450 MHz 2-way radio. The first FCC type approved 2-way radios were Motorola units that had two of the 2C39A tubes mounted in cavities. In later years, hams would remove the driver and final cavities and incorporate them in their 440 MHz ham gear. Surplus cavities with several tubes could be converted to 1296 operation with inputs of up to a KW. If you wanted to push the dissipation, the anode cooler could be removed and a small water jacket attached. Some military types were made with "pin" coolers that could be immersed in oil or hit with high air pressure in an aircraft. Many varieties of the 2C39(A) were produced by several companies and in many countries. Currently there are 45 different type numbers or manufacturers in the Transmitting Tube Museum collection. The "oil can" tube is still in production today under the designation 7211 and many others.

<http://n6jv.com/museum/2c39.html>

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