

Tube of the Month

CM-2174

Once while I was at a Silicon Valley swap meet, I found a very strange, water cooled tube of the most unusual construction. Someone commented that they thought Charles Litton had something to do with it. In years to come, the story started to make sense. Charles Litton was a ham who was the head of tube development at Federal Telegraph in the 1920's. The tube business in the late 1920's was highly involved in patent infringement issues with RCA. Heintz & Kauffman with their new glass blower, Bill Eitel, was working on their "Gridless Gammatron" design. Litton was also involved in the development of designs that wouldn't infringe on the RCA held patents. I think all these hams were friends and assisted each other with their common goals.

The designation CM is a Federal Telegraph drawing number and not actually a tube number that would be assigned to a product for sale. The CM-2174 has an internal anode that is hollow and is supported by two water lines that also acted as the electrical terminals. The anode is curved around the grid and filament. This odd shape like the Gammatron plates, were a means to get around the RCA patent for the cylindrical anode that enclosed the grid and filament. In order to not enclose the grid, Litton made his fat anode in a curve of no more than 179 degrees. The tube functioned reasonably well and RCA had no case against it.

When tube production started growing in the early 1930's, Litton formed Litton Engineering and went into making tube making equipment such as glass lathes. Litton was very involved in the WWII expansion of tube manufacturing facilities for Eimac and other builders.

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