

Remembering Vince DeLong

By Phil Topf

At Collins, Vince was one of the engineers consulted when we had a really tough engineering problem. Collins bid and won a fixed price contract from the FAA to build and deliver two 50 watt transmitters to cover the commercial VHF band 116-156mhz, and another to cover the military UHF 225-400 MHz band.

Somehow Mr. Collins found out about the contract, and word came down that we were to build one transmitter to cover both bands. This was a complete surprise; we didn't know how to build such a device in the space allowed. Luckily we got Vince to come and help. He came up with a transmission line solution. The 50-watt output circuit consisted of a transmission line cavity with two concentric center conductors. The larger center conductor was used for the 225-400 MHz band. For the 116-156 MHz band, a smaller diameter conductor was exposed to change the electrical length of the transmission line without changing the overall physical length of the cavity. Vince came up with the original idea, and Bill Durspek and Duane Weltha did the electrical and mechanical design and implementation, respectively. The three of them applied for and received a patent on the end product. Collins went on to build over 2,000 of the transmitters for air traffic control centers across the country. Later ITT copied the design for 50 watt transmitters for the USAF.